

Everyman's Encyclopædia

IN TWELVE VOLUMES

VOLUME EIGHT

Jester
TO
Map Reading

THE THIRD EDITION

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EDITED BY ATHELSTAN RIDGWAY, LL.B.

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RETROCONVERTED

B. C. S. C. L.



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ABBREVIATIONS

The titles of subjects, which are printed first in bold type, have been abbreviated within each article to the initial letter or letters.

ac., acre(s).
 agric., agricultural.
 ambas., ambassador(s).
 Amer., American.
 anot., ancient.
 ann., annual.
 arron., arrondissement.
 A.-S., Anglo-Saxon.
 A.V., Authorised Version.
 b., born.
 Biog. Dic., Biographical Dictionary.
 bor., borough.
 bp., birthplace.
 Brit., British.
 C., Centigrade.
 c., about.
 cap., capital.
 cf., compare.
 co., county.
 com., commune.
 cub. ft., cubic feet.
 d., died.
 Dan., Danish.
 dept., department.
 dist., district.
 div., division.
 E., east; eastern.
 eccles., ecclesiastical.
 ed., edition, edited.
 e.g., for example.
 Ency. Brit., Encyclopædia Britannica.
 Eng., English.
 estab., established; establishment.
 F., Fahrenheit.
 fl., flourished.
 fort. tn., fortified town.
 Fr., French.
 ft., feet.
 Ger., German.
 Gk., Greek.
 gov., government.
 Heb., Hebrew.
 hist., history.
 horticult., horticulture.
 h.p., horse-power.
 hr., hour.
 i.e., that is.
 in., inch(es).
 inhab., inhabitant(s).

is., island(s).
 It., Italian.
 Jap., Japanese.
 jour., journal.
 Lat., Latin.
 lat., latitude.
 lb., pound(s).
 l. b., left bank.
 long., longitude.
 m., mile(s).
 manuf., manufacture.
 min., minute(s).
 mrkt. tn., market town.
 MS., manuscript.
 mt., mount; mountain.
 N., north; northern.
 N.T., New Testament.
 O.E., Old English.
 O.F., Old French.
 O.T., Old Testament.
 oz., ounce(s).
 par., parish.
 parl., parliamentary.
 pop., population.
 prin., principal.
 prof., professor.
 prov., province; provincial.
 pub., published; publication.
 q.v., which see.
 R., riv., river.
 r. b., right bank.
 Rom., Roman.
 R.V., Revised Version.
 S., south; southern.
 sec., second(s).
 sev., several.
 Sp., Spanish.
 sp. gr., specific gravity.
 sq. m., square mile(s).
 temp., temperature.
 ter., territory.
 tn., town.
 trans., translated; translation.
 trib., tributary.
 univ., university.
 urb., urban.
 vil., village.
 vol., volume.
 W., west; western.
 Wm., William.
 yd., yard.

The article ABBREVIATIONS contains a list of those in general use. See also ABBREVIATION (music) and ELEMENTS (chemical symbols).

Jester, or **Gestour**, literally, a kind of minstrel or professional reciter of romances, 'gestes' (Lat. *gesta*) or legendary tales. Later 'geste' became a synonym for a witty tale or clever sally, and **gestour** meant a clownish wit, merry-andrew, or buffoon kept by great people for their amusement, in imitation of the king's 'court-fool.' This custom dates from very early times. Court Js. probably existed in England in Saxon times, Hiltard, fool of Edmund Ironside (d. c. 1016), being one of the earliest known. Gyles, fool of Wm. I., Will Somers, fool of Henry VIII., and Archie Armstrong, fool of James I., are all famous characters. In France, Thévenin de St. Leger (fourteenth century), Cailliet and Triboulet (fifteenth-sixteenth century), and Chicot (sixteenth century) are well known. As a court institution fools did not apparently outlive the Commonwealth in England. Dicky Pierce, the last jester fool, attached to Lord Suffolk's household, died in 1728. Court-fools are mentioned in the Sanskrit *Ramayana*; Philip of Macedon, Attila, Haroun-al-Raschid, and Montezuma all owned fools, and they flourished especially in the Middle Ages. The majority of professional Js. were by no means half-witted, at least not in later times, but merely assumed the cloak of folly which allowed of considerable licence of speech and behaviour. The traditional dress consists of parti-coloured garments, a fool's cap or hood with cockscorn, ass's ears, and bells, the sceptre (bauble or 'marotte'), and a large collar. See F. Douce, *Illustrations of Shakespeare*, 1839; J. Doran, *History of Court-Fools*, 1858; A. F. Nick, *Die Hof- und Volksnarren*, 1861; E. K. Chambers, *Medieval Stage*, 1903.

Jesuits' Bark, see **CLINCHONA**; **PERRUVIAN BARK**.

Jesuit's Drops, see **FRUAR'S BALSAM**.

Jesuits, **The**. Popular name for the Society or Company of Jesus, a religious order of the Rom. Catholic Church, founded in 1534 by Ignatius Loyola (q.v.). The first object of the founder was work in the Holy Land, but the journey thither was made impossible by the Turkish war, and so the Spaniard renounced his first and cherished dream, and offered the services of his band to the pope in any capacity, but especially as missionaries. At this time the prestige and authority of the Papacy were gravely imperilled by the rapid secession of Protestant or Reformed churches, and in this way Loyola came to be intimately associated with what is called the Counter-Reformation. In 1540 he obtained the sanction of Pope Paul III. for the new rule of the Society of Jesus, and at Rome in the following year was elected as the first of its generals.

Loyola was a man of indomitable will and forceful personality, and in drawing

up the constitutions of the Society with his companions he used the greatest care and deliberation, with the result that they have undergone little change since they were finally adopted in 1558. In the training of a Jesuit, soon after his novitiate begins, thirty days are spent in meditation on the *Spiritual Exercises*, a manual which the founder himself composed; they are a systematic presentation of the truths of religion, arranged so as to appeal both to the head and the heart, and so to strengthen the will of the student and purify his motives in submission to God and love of Christ. The novitiate lasts two years, and then simple vows of poverty, chastity, and obedience are taken. Those who are to be priests then do two or three years of philosophy, five years teaching in one of the Society's schools, four years of theology, and, after an interval of several years they have another year of probation (tertianship). After the third year of theology the scholastic is ordained priest. The normal period of training is thus about thirteen years. Not all Js. proceed to solemn profession, which involves a fourth vow, of special obedience to the Pope to go on missions. The secular and menial offices of the Society are done by lay brothers, called temporal coadjutors, who also are bound by the three vows. There are no 'secret Jesuits.' The general is elected by the general congregation, in which each prov. is represented by the prov. and two elected fathers. He holds office for life, and is advised by a council of six assistants of various nationalities, whose recommendations, however, he is at liberty to disregard. The general commits the administration of the sev. provs. to chosen representatives, called provincials, and he also appoints the chief superiors of all novitiates, colleges, and professed houses or residences. A great deal of power is thus concentrated in the hands of the one man; but he cannot change the constitutions.

The main novelty of the new order lay in its abandonment of the daily office obligatory on all the older orders and also in complete centralisation. Thus it attained a flexibility hitherto unknown, which soon made itself felt in the Counter-Reformation, of which the Js. were the protagonists. The order spread rapidly over Italy, Spain, Portugal, France, Germany, the Netherlands, and sent subjects to England and Russia. In England its foothold was always insecure, owing to the penal laws against all Catholic priests. Its hist. may be divided into three periods, namely, the rise, the suppression, and the restoration. In his work of building up the Society and disseminating the new ideas and methods, Loyola was assisted by a band of eager disciples, including

James Lainez, Francis Xavier, Nicholas Bobadilla, and Francis Borgia, among his own countrymen; Simon Rodriguez, a Portuguese, and Peter le Fèvre, a native of Savoy. So successful was their work that on the celebration of its first centenary the order counted 13,112 members, dispersed over thirty-two provs. Moreover, Jesuit missionaries were sent to all corners of the earth, and wherever they went they carried with them learning and culture, besides the spiritual message of their Church. Thus they sent missions to China and Japan, Brazil and the Portuguese settlements in India, the Philippine Is., California, and Abyssinia, and not seldom suffered martyrdom. Their missions in Paraguay were particularly successful and have earned the praise of historians of all shades of opinion.

By the middle of the eighteenth century the J. were unpopular with all the sovereigns of Europe, and Portugal suppressed the J. by a royal decree in 1759; France and Spain soon followed her example. Finally, Pope Clement XIV., under pressure from the Bourbons and other sovereigns, and hoping thereby to gain their goodwill, issued his brief *Dominus ac Redemptor Noster*, by which the Society was suppressed throughout the world (1773); but it was not enforced by Catherine the Great in Russia, where the Society continued its activities. At this time there were 61 novitiates, 176 seminaries, 669 colleges, 359 residences and professed houses, and 275 missions in heathen countries; the membership was estimated at 22,500. The suppression, however, was only temporary; in 1814 Pope Pius VII. restored the J. everywhere, after having approved them locally in Russia (1801) and Naples (1804). The Society has never regained its former political influence, but its sphere of religious influence is greater than ever. Today only in Switzerland are the J. formally and by name forbidden to have estates. In England they worked in the sixteenth and seventeenth centuries under the shadow of the penal laws which imposed death on all Catholic priests. Since these were relaxed and all religious communities were tolerated they have estab. sev. houses—including Beaumont College (Old Windsor) and Stonyhurst College (Lancs.). The whole order numbers about 20,000, with 900 in England.

The causes which led to their universal expulsion in the eighteenth century were the activities of the Jansenists and other eccles. opponents, and to the civil powers, for their power and influence in new and distant lands (e.g. S. America) embroiled them in politics. And, moreover, the doctrine that the pope is Christ's vicar on earth, and therefore that the first duty of the true Catholic is complete obedience to his word in spiritual matters, was improperly stretched by some J. (and others) into the temporal domain. The lawfulness of tyrannicide was formally taught by only one Jesuit of eminence, Mariana, and so to teach was forbidden to members of the Society under severe penalties from about 1600. But from it arose their

actual or suspected complicity in a number of conspiracies and plots. They were believed to have had a hand in the Gunpowder Plot, in the formation of the Ligne de Guiso, in the revocation of the Edict of Nantes, and in the outbreak of the Thirty Years' war. It is clear that the govs. of Europe looked on the J. as a menace to the state; in particular, sovereigns were frightened by Jesuit opposition to the new-fangled doctrine of the 'divine right of kings.' Obedience was always a cardinal virtue of the J.; throughout every grade of the Society the word of a superior is law in all matters that are not sinful. The resulting solidarity of the body made it a further object of fear and suspicion to kings and to many lesser people, while its skill in casuistry was the chief ground of attack in Pascal's *Lettres Provinciales* (1622). And a certain tendency among some J. to use worldly and intellectual, rather than purely spiritual means of compassing a worthy end earned much dislike for them. It became a common impression that the J. taught that 'the end justifies the means,' though it is entirely unproved that any J. ever did so. The Society had no official connection with the Sp. (or other) Inquisition, and in some places (e.g., Paraguay) definitely opposed it. The self-devotion, enthusiasm, and, above all, the zeal for thorough and scientific education which members of the Society have continued for centuries to show cannot fail to impress the student, not only of hist., but of the more intimate field of human psychology, and to secure some measure of sincere admiration. Both the scientific works of its members and their conduct of boys' schools have been a very definite contribution to the world's intellectual progress. See *Rules of the Society of Jesus*, 1663; F. Parkman, *The Jesuits in North America*, 1868; T. Griesinger, *History of the Jesuits*, 1872; E. Taunton, *History of the Jesuits in England*, 1901; T. J. Campbell, *The Jesuits, 1534-1921*, 1923; La Farge, *The Jesuits in Modern Times*, 1928; Goodier, *The Jesuits*, 1928; Broderick, *The origin of the Jesuits*, 1940, and *The Progress of the Jesuits*, 1946; M. P. Harney, *The Jesuits in History*, 1941. Also, bibliography of IGNATIUS LOYOLA (q.v.).

Jesuit Style, see BAROQUE.

Jesuit Christ. Our knowledge of the life of Christ depends entirely upon the canonical books of the Bible. References to Jesus in non-Christian historical literature of the first centuries are rare, and the chief of these, those of Philo and Josephus, have probably undergone Christian interpolation. Generally, however, the profane historians of the period show complete ignorance of the life of Christ. The apocryphal gospels which have come down to us consist of ridiculous legends without even the excuse of verisimilitude for their existence. Not a single fact with reference to the life of Jesus can be gained from them. Nor does the rest of early Christian literature furnish us with any certain knowledge beyond that which has received the imprimatur of the centuries. Turning, then, to the pages of the N.T., it

is in the epistles of St. Paul that we find the earliest references to the events of Christ's life. The references are incidental, being introduced on account of the lessons that may be drawn from the events referred to, rather than from any desire to insist upon the facts themselves. The Gospels were not composed as biographies, and no suggestion of a historical portrait of His appearance has ever been known. The earliest representations are purely symbolic. The earthly life of Jesus seemed then of less moment than the risen and ascended life in which all His members were sharing. It was not until certain heresies arose denying the true humanity of the Christ that the necessity for narratives of His life became clear. Even then nothing in the way of an ordered biography was produced. According to most modern Protestant authorities the first of the Gospels in point of date is that of St. Mark. Moderate criticism, which will be followed in this article, is willing to admit the Marcan authorship, and dates the Gospel shortly before the year A.D. 70; Dr. Adolf Harnack places it between 65 and 70. The Marcan narrative is the most vivid and shows fewer signs of religious decorum than do the later works. St. Mark, for instance, tells us of Christ's anger, compassion, and satisfaction, on more than one occasion, also of actions such as His groaning, embracing, and falling down. If we compare the parallel passages in St. Matthew and St. Luke we shall find that almost all of these are absent, with the notable exception of the agony. It is usual to follow the Marcan narrative, moreover, in regard to the chronology, as it is apparently less artificial than the others. It is now generally considered that the compilers of the First and Third Gospels made use of St. Mark's Gospel, and also of another source (generally spoken of as Q) which they had in common. St. Luke is accepted as the author of the Gospel which bears his name, and which is dated shortly after the year A.D. 70. Dr. Adolf von Harnack places it somewhat later, between 78 and 93. The question of the authorship and date of St. Matthew's Gospel is far more difficult, and no definite conclusions have yet been reached. Dr. Harnack dates it probably between 70 and 75. The last Gospel (see GOSPEL ACCORDING TO ST. JOHN) is obviously written from an entirely different point of view from that of the other gospels (called 'synoptic' because they give a similar view of Christ's life) and stands on a different plane. It appears to have been intended rather to supplement the other Gospels by giving information on Christ's work in Jerusalem, not recorded by them, and hence, except for two miracles and an account of the Passion, has little common ground with the others. Any attempt to appreciate its importance would be out of place here. St. Mark plunges immediately into the preparation for the ministry he is about to deal with, after the proclamation of his subject, 'the gospel of Jesus Christ the Son of God.' First John the Baptist is

introduced, and we hear his preaching of repentance and the warning of one who will follow him. Then Jesus comes from Nazareth; we hear His words, we see His actions. At first He is welcomed as a prophet, but soon His uncompromising propaganda of reform and His resolute attack on formalism brings suspicion and irritation. Then the political situation is gradually revealed, and we see how step by step, with eyes wide open, the great Teacher goes voluntarily to death—a death followed, however, by the supreme miracle of the resurrection, on which His Church was founded. It will be immediately noted how limited is the scope of St. Mark's Gospel, but some explanation of this is furnished by the passage in the Acts



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HEAD OF CHRIST, BY LEONARDO DA VINCI

which stated the requirements in candidates for the place in the apostolic band rendered vacant by the death of Judas Iscariot. Only those were eligible 'which have accompanied with us all the time that the Lord Jesus went in and went out among us, beginning from the baptism of John unto the day that He was received up from us, of these must one become a witness with us of His resurrection.' It will be seen that this period corresponds almost exactly with that covered by St. Mark's Gospel, and may well have been the substance of what an Apostle had to expound. Both the other synoptic evangelists felt that some information on the earlier life of our Lord was necessary, and tradition tells us that St. Luke's information was gathered from the Blessed Virgin herself. This renders possible a sketch of the life of Jesus as the Gospels tell it.

In the City of Nazareth in Galilee there lived a virgin named Mary, espoused to

Joseph, the carpenter, a righteous man of the family of David. To her came the Angel Gabriel with the message that she should conceive by the power of the Holy Ghost and not in the ordinary course of nature, and should bring forth a son Jesus, who should be called the Son of God. In due course this miracle came to pass, and Joseph was assured by a vision of his wife's great work. But as the time for the birth of the child drew near it became necessary for Joseph and Mary to travel to Bethlehem in Judaea, and here, in a stable, the child Jesus was born, and to Him came shepherds and Magi offering their worship. The visit of the Magi brought danger in its train, and almost immediately it became necessary for the Holy Family, after the circumcision of the child, to flee into Egypt. Here they remained until the death of Herod, when they returned and dwelt at Nazareth. It is not very easy to date all these events, but there is now general agreement that the popular chronology places the Nativity four years too late, and that the birth of Christ actually took place at least four years before that from which we date the commencement of the Christian era. The dogma of the Virgin Birth has naturally been a source of attack on the Christian faith from the beginning. It was early denied by the Gnostic heretics, but the Church then, as always, upheld this vital truth. Those who deny the *a priori* possibility of miracles are, of course, unable to accept it, but the Church shows no inclination to insist less on them. The mystery of the incarnation, clearly forming the very foundation of the belief in Christ's divinity. Only one other incident of Christ's childhood is told us, this again by St. Luke, the story of the finding of the boy Jesus in the Temple, listening to the instruction of the doctors. It is especially valuable because it testifies so clearly to the true humanity of the Christ, which has often been obscured by those anxious to lay stress on the truth of His divinity.

The apocryphal gospels show none of the delicate reticence of the canonical books. A certain number of them, such as the *Protoevangelion* and the *Gospel of the Infancy*, deal with the earlier parts of Christ's life, but the incidents recorded there are fantastic. Except for the single incidents referred to above, the canonical gospels preserve complete silence as to the life of Jesus at Nazareth. But from the reference which the men of Nazareth make to Him when He visits them in His ministry, 'Is not this the carpenter?' we may gather that during these years He quietly pursued the trade of Joseph. Then, after years spent in obscurity and humble labour, comes Christ's brief period of public ministry. Its exact length is uncertain. From the synoptic gospels we should gather that the ministry was almost entirely in Galilee, and that it lasted only one year. But the last Gospel relates only events which occurred in Judaea, and speaks of three passovers spent there. The beginning of the ministry of Jesus is closely connected with the preaching of John the Baptist. Jesus came to him for

baptism, as did those others whom his preaching had moved to repentance, and the Gospels are agreed that John bore witness of Jesus, of whom he declared himself to be merely the forerunner. The fact that Jesus came so far to seek the baptism of John seems to show that He had a close connection with John's work, and that it was as his successor that He would make His entry into public life. We do not know how long Jesus remained in the deserts of the lower Jordan, but during this period occurred the Temptation, when He was 'driven of the Spirit into the wilderness.' After this period of strong spiritual trial and, says St. Mark, 'after that John was delivered up,' i.e. thrown into prison by Herod, Jesus returned to Galilee, where His public ministry began. We hear of only one visit, and that an unsuccessful one, to His native city of Nazareth. Capernaum, called in Matt. ix. 1 'His own city,' seems to have been the city to which He most frequently returned. His ministry may well be divided into two kinds: a public ministry of preaching to the people, and the private work of teaching His disciples. The public ministry was at first carried out by teaching in the synagogue. This beginning of the preaching ministry was followed by a tour through Galilee. So far as we can say, no one of the addresses delivered by Jesus in the synagogue has been reported, and certainly none is given in its setting. But St. Luke gives us the text of the address at Nazareth from the prophet Isaiah, 'The Spirit of the Lord is upon me, because He anointed me to preach good tidings to the poor: He hath sent me to proclaim release to the captives, and recovering of sight to the blind, to set at liberty them that are bruised,' and he goes on to say that Jesus began His address with the words, 'To-day hath this scripture been fulfilled in your ears' (Luke iv. 21). From this it may be gathered that the promised kingdom of God was the main theme of Christ's discourse, and that He spoke as bearing good news and not as proclaiming a judgment, though the note of warning ever appears. Two things were required in those who heard Him—repentance and faith. Very particularly, too, was Christ's message addressed to the lower classes of Palestine. No one casually reading the Gospels can fail to be struck by the continual references to publicans and sinners, and this aspect of the Lord's preaching may well be summed up in His own words, which appear in all three of the synoptic gospels, 'I came not to call the righteous, but sinners to repentance.'

Though everywhere throughout the Gospels we see the tender love and sympathy of Christ for all that is good in man, it is easy at the present day to overlook the ascetic side. In this there was no shadow of a compromise: 'If any man will come after Me, let him take up his cross and follow Me.' The method of teaching of which Jesus made use in His public preaching was the common one—by means of parables. St. Mark says that 'with many such parables spake He

the word unto them, as they were able to hear it: and without a parable spake He not unto them' (iv. 34). Large numbers of the parables of Jesus are collected in the synoptic gospels, and all are of a homely kind, likely to be appreciated by people of all classes. No less important, however, than our Lord's public preaching ministry, the apparent success of which, if we may judge from the parable of the Sower and the preceding discourse, was very slight, was the work of instructing his disciples. The importance of this side of Christ's teaching work is shown, too, by the antithesis continually presented between the disciples and the multitudes. In St. Mark's Gospel we see this antithesis most clearly of all, and we see also the succession of attempts which Jesus makes to secure the requisite time and quiet for instructing His disciples. As the opposition of the religious authorities became more and more decided, Jesus appears to have withdrawn more and more from public life in order to devote Himself to this other work. It is possible that the excursion into Tyre and Sidon and the still more noteworthy expedition to Caesarea Philippi, which was the occasion of St. Peter's confession of Him as the Messiah and as son of God, were prompted by a desire to avoid His powerful enemies. The slow journey down to Jerusalem for the last Passover was also engaged chiefly in instruction, chiefly on the subject of His rapidly approaching death, of which the disciples still seemed completely ignorant. The depth of the tragedy of this ignorance, and the surest sign of their failure to rise as yet to the heights whither their Master called them, is shown well in St. Mark's vivid narrative.

Closely connected with our Lord's teaching work was His ministry of healing, and this comes into prominence at the beginning of the Galilean ministry with the casting out of an unclean spirit, and St. Mark's account shows that it was the miracle rather than the teaching that first struck them and brought with it a sense of power. Almost immediately afterwards we read how this work of healing was carried on even more widely in the district, when they had retired to Simon's house: 'At even, when the sun did set, they brought unto Him all that were sick and them that were possessed with devils. And all the city was gathered together at the door. And he healed many that were sick with divers diseases and cast out many devils' (i. 32-34). These are but a few of the numerous miracles recorded in the Gospels. Often, we have a large number of miracles disposed of in a group. On other occasions we have a more or less complete account, when certain peculiar circumstances or some discourse attached to the miracle render it more noteworthy. Thus we have the large class of miracles spoken of as casting out devils, where emphasis is laid upon the recognition of Jesus by the evil spirits, and His frequent command of silence. All these miracles are closely connected with the main narrative, and it is hardly reasonable to try to explain them

away as a late excrescence. The attack on the credibility of miracles has come during the last few centuries from many different quarters, and is based on an *a priori* dis-belief in their possibility, rather than an examination of the scriptural story. There may possibly be methods of scientifically explaining the way in which Christ's healing work was performed, but certainly this has not been done yet, and would not explain how Christ could have possessed such scientific knowledge by his ordinary human powers.

Christ's attitude towards the religious leaders of His time was almost entirely one of condemnation. The aim of these leaders was to secure a uniform observance of external rites, to secure the carrying out of the letter of the law even if the spirit had to be sacrificed. It is easy to misunderstand the point of Christ's judgment on them. He did not teach that they should be disregarded. What they commanded was to be observed and done, but their actions were not to be imitated. Here, again, in the question of the observance of the law, they are blamed not so much for their care of minute details as because they hypocritically allowed this care to usurp the care of weightier matters. Against one particular point in the Pharisaic formalism, the strict observance of the Sabbath day, Christ seems to have deliberately carried on a campaign, and it was His action in this respect that precipitated the conspiracy of the Pharisees and chief priests against Him. The summing up of Christ's teaching on this subject, the words, 'The Sabbath was made for man and not man for the Sabbath' (Mark ii. 27), may be taken as the essence of His whole teaching with regard to external observances. An equally sweeping generalisation is that with reference to the many washings, 'there is nothing from without the man, that going into him can defile him: but the things which proceed out of the man are those that defile the man' (Mark vii. 15).

So the leaders of the religious world took council with the Herodians (those Jews who formed a political party in support of the Idumean Herod) against Jesus, how they might put Him to death. A week before this, Jesus entered Jerusalem in triumph, as all three evangelists tell us, and thus, according to St. Matthew, a Messianic prophecy was fulfilled. The enthusiasm of the people on this occasion still further infuriated the religious leaders and His immediate death was resolved on. The week that followed was crowded with incidents. The nights were spent at Bethany and each day the little party went into Jerusalem. On the evening before the Passion occurs the Last Supper, the mystic feast of which the actions have been repeated by all Christian communities from that time till the present day in accordance with Christ's command to do this in remembrance of Him. Then follows the Agony in the Garden, and thus begins the story of the Passion. This story is narrated at considerable length by each of the four evangelists, and though

there are certain notable differences, especially in the account given by St. John, there is agreement in the main outline. All are agreed that it was by the treachery of Judas Iscariot, one of His own most intimate followers, that Jesus was betrayed, and that then He was tried in great haste. Before the Rom. governor it was the political aspect of the Messianic claim that was used against Him, and ultimately His condemnation was secured. Meanwhile, all the twelve had forsaken Him and fled, while Peter, the chief of the disciples, had actually denied his Master. The crucifixion must take place in haste, and the Christ is hurried to the hill called Golgotha. But He is too weak from exhaustion to bear His own cross, and in this He is aided by Simon of Cyrene. At Golgotha He is crucified, bearing over Him the title *King of the Jews*.

Finally the Evangelists conclude with an account of the burial, in a tomb guarded by Pilates' soldiers; then on the third day he rose again and they narrate the incidents of their life with Him. It is not the place here to enter into discussion of the doctrine of Atonement (*q.v.*), but it is necessary to point out that the work of Christ can hardly in any sense be said to have ended with the Crucifixion. Did we end the life of Christ at this point it would be a record of failure rather than of victory that we should have narrated, and the world would be left with no alternative but the most extreme pessimism. In a sense it would be true to call the earthly life of Jesus only a beginning. St. Luke for example, at the beginning of the Acts of the Apostles, speaks of his former treatise as being concerned with all that Jesus began both to do and to teach until the time that He was taken up. In this sense, the story of the life of Christ is still continuing, as He still works in His Church. That the whole key to the Gospels lies in the narration that the third day Christ rose again from the dead, and that in this He is but the first of mankind. It was the gospel of the Resurrection that the apostles went forth preaching as the Acts and the Epistles abundantly testify.

Complete bibliography is impossible. The Gospels themselves must ever form the ground-work and centre of any attempt to write the life of Christ. Tatian's *Diatessaron* was the first attempt to form a harmony of the four, and many such have been made since. Apart from such harmonies the first life of Christ is the *Vita Christi* of St. Bonaventura. The life of Christ by Renan (1863) is the work of a sceptic and unbeliever. Among the works of believers, see:

Protestant: Dean Farrar, *Life of Christ*, 1874; T. R. Glover, *The Jesus of History* (Student Christian Movement), 1921; T. H. Robinson, *St. Mark's Life of Jesus*, 1922; Rufus M. Jones, *The Boy Jesus and His Companions*, 1922; G. R. H. Shafto, *The Stories of the Kingdom* (A study of the parables of Jesus), 1923; J. Middleton Murry, *The Life of Jesus*, 1926; J. Paterson Smyth, *A People's Life of Christ*, 1926, 1949; B. Barton, *The Man Nobody Knows*, 1927; *The Children's*

Bible, edited by A. Nairne, Sir A. T. Quiller-Couch and T. R. Glover, 1928; Bishop Chas. Gore, *Jesus of Nazareth*, 1929; James Moffatt, *Everyman's Life of Jesus*, 1930; G. Cook, *The Light of the World*, 1949.

Catholic: H. Didon, *Jesus Christ* (trans.), 1895; Fouard, *Christ the Son of God*, 1905; Filhon, *Life of Christ* (trans.), 1928; A. Goodier, *Public Life of Our Lord Jesus Christ*, 1930; J. Lobreton, *The Life and Teaching of Christ*, 1934, and especially: J. Lagrange, *The Gospel of Jesus Christ* (trans.), 1934.

Jesus College, Cambridge, lies apart from, and to the N.E. of, most of the colleges of the unit. It was founded in 1496 by John Alcock, Bishop of Ely. Its site was previously occupied by a Benedictine nunnery dedicated to St. Radegund. The name first given to the college was 'The most blessed Virgin Mary, St. John the Evangelist, and the glorious Virgin Saint Radegund,' but the founder intended it to be known as J. C. He provided for a master and six fellows, but the foundation now consists of a master and sixteen fellows, with twenty scholarships or more. There are several other scholarships confined to the sons of the episcopalian clergy. Architecturally, Jesus is one of the most interesting colleges in Cambridge, for Alcock retained, and there still remains, a considerable part of the old buildings of the nunnery. The tower is retained; the bulk of the building is Early Eng., but there are Norman traces. The most famous name connected with the place is that of Cranmer. The college colours are red and black.

Jesus College, Oxford. This college has always had an interesting connection with Wales. Queen Elizabeth was its foundress in its charter of 1571, but Hugh ap Rice (Price), a native of Brecon, endowed it. The original foundation was for a principal, eight fellows, and eight scholars. It now consists of a principal and not less than eight or more than fourteen fellows, and there are twenty-four foundation scholarships, besides others and exhibitions, mainly on the foundation of Edmund Meyrick, a native of Merionethshire, who entered the college in 1656, and was a fellow in 1662. The college faces Turl Street; the front is a reconstruction of 1856. The chapel dates from 1621, the hall from about the same time, and the library from 1677. The college colours are green with white edges.

Jesus Sirach, *see* ECCLESIASTICUS.

Jet, kind of lignite or anthracite, which can be easily cut and carved, and takes a fine polish. It probably takes its name from Gasgas, in Lycia, where, according to Pliny, a similar substance was found. J. was used in Britain for ornaments from prehistoric times. Necklaces, beads, buttons, etc., of the Beaker period of the Bronze Age, of the Neolithic period, and of the Early Iron Age are known, and Caius Julius Solinus (third century) alludes to the abundance of J. in Britain. Caedmon, too, refers to the J. It was probably obtained from the coast of

Yorkshire and especially Whitby, where the finest quality is still found. It is also imported from Spain, but Sp. J. is generally less hard and lustrous than that found at Whitby. It is found, too, in the dept. of Aude in France, and in the Lias of Württemberg, and is known in many localities of the U.S.A. It is chiefly used for mourning ornaments, but imitations occur in vulcanite and in glass.

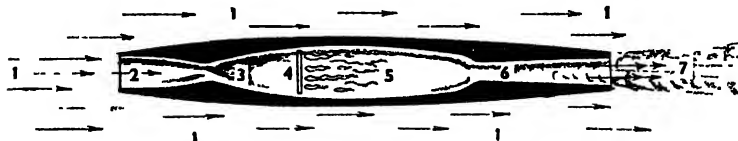
Jethou, one of the Channel Is., subject to Guernsey. It is an infertile, granitic is. 1 m. in circumference, separated from Herm by a narrow channel.

Jeton, or **Jetton**, round piece of metal or ivory, which was formerly used in card games for counting, as well as a pass to the gaming tables.

Jet Propulsion, form of motive power particularly applied to aircraft, by means of reaction to the mass of air ejected at

Aug. 27, 1939. After the first successes other firms in Britain and Germany were given instructions to develop J. P. engines and by the end of the war many existed in both countries; the Gers. were the first to put jet aircraft into service, but the engines were much less reliable than Brit. types. Development in France was started by Latécoère before the war, but was delayed by the occupation; while in the U.S.A. work was not started until 1911, when a Whittle engine and complete drawings were flown across the Atlantic.

Ignoring the mechanics of the different systems (*see* AERO-ENGINE) J.P. works on the principle of taking air into the engine, compressing it and reducing its velocity to a speed suitable for combustion, mixing with fuel, burning and thereby expanding the mixture and increasing its kinetic energy, before finally ejecting it at high



PURE JET PROPULSION

The original propulsive duct suggested by René Lorin in 1913, which still expresses the basic principles, although details vary.

1. Air stream due to motion.
2. Air intake.
3. Diffusor to reduce air speed and increase pressure.
4. Fuel injection.
5. Combustion chamber where the gases heat and expand.
6. Outlet venturi where kinetic energy of gas is converted from pressure to velocity.
7. High-speed propulsive jet of hot gases.

the rear of an engine. This form of propulsion is a direct application of Newton's third law of motion (to every action there is an equal and opposite reaction, *q.v.*) and the basic principles were first stated by a Fr. engineer René Lorin, who pub. patents in 1913. Although not developed to practical use, the first design contained the essentials as practised to-day and the latest high-speed engine, the ram-jet (or athodyd) is exactly like the original simple design without working parts shown in the diagram. Efficient propulsion by jet reaction can only take place at high speeds, and it was not until aircraft capable of more than 300 m.p.h. were developed that the system was of more than academic interest.

In 1930 Whittle (then a R.A.F. cadet, now Air Commodore Sir Frank Whittle) had the idea of using a gas turbine to produce the large air-flow necessary for J. P. and he, with little support until 1937, worked on a series of engines, of which the W.1 eventually flew in the Gloster E 28/39 on May 14, 1941. The other pioneer work was done independently by the Ernst Heinkel firm in Germany, where experiments started in 1930 and the first engine, the Heinkel S3B, was flown in the experimental He. 178 monoplane on

speed. Although the reaction is measured as pounds of thrust, propulsion is *not* the result of the jet pushing on the surrounding air, it is purely a reaction to the escaping jet. 100 per cent efficiency occurs when the speed of the engine is equal to that of the air in the jet and the measure of efficiency of an engine is given by the difference in these velocities.

At present any form of jet engine is lighter for its power than any other, but it also has a higher fuel consumption. Effectiveness of the jet depends upon the initial air compression (present average is about 4 : 1) and if a turbine engine is used many thousand horsepower from the gases must be absorbed in the turbine driving the compressor, while with a ram-jet, where compression is the result of forward speed only, it must be high enough to give the initial compression of 4 : 1 before reasonable return of power for fuel expended can be obtained. In both cases high air speeds (over 400 m.p.h. in the first and over 600 m.p.h. in the second) are necessary, so that the high air resistance to the aircraft means large fuel consumption to provide the necessary power.

Rockets (*q.v.*) are J.P. engines which carry their own oxygen—either in the fuel, or separately in liquid form—and are

therefore independent of atmosphere for the air supply for combustion. Rockets have been used successfully for missiles (Ger. V.2 long range, A.A. and ground short range), for the propulsion of fighter and research aircraft, and are frequently used to assist the take-off of heavily loaded aeroplanes. Characteristics are very high thrust for short periods.

All forms of J. P. engine are simpler and lighter for their power than other heat engines, but present lower thermal efficiency makes J. P. unsuitable for long range, particularly since fuel economy cannot be attained by throttling, because at lower speeds the efficiency falls. The present trend to overcome this difficulty is to group the engines in an aircraft so that when air endurance is required one or more engines can be stopped. Then, although the speed is reduced and the thermal efficiency falls, the actual fuel consumed is reduced. See also under **ARO-ENGINES**.

Jette, or **Jette-Saint-Pierre**, tn. in Belgium and N. W. suburb of Brussels. It is engaged in agriculture and manufacture of chemicals, enamelled goods, chicory, train-oil, and cigarettes. Pop. 29,100.

Jetsam, see **FIOTSAM**.

Jeunesse Dorée, La, the gilded youth of a nation, that is to say, the rich, unmarried, fashionable young men.

Jever, old tn. in Oldenburg, Germany, was formerly the cap. of the Dutch principality of Friesland. Chief manufs. are woollen and leather goods; tanning and dyeing are also carried on. Pop. about 6000.

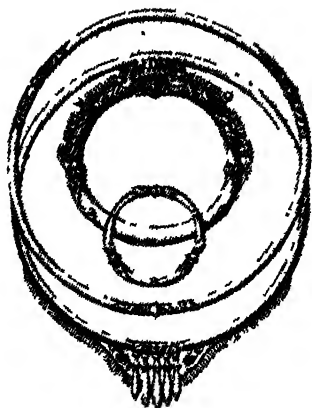
Jevons, William Stanley (1835-82), Eng. economist and logician; b. at Liverpool. At fifteen he was sent to London to Univ. College. He already believed that important achievements as a thinker were possible to him. Whilst at Univ. College, his favourite subjects were chem. and botany. He unexpectedly received the assessorship to the new mint in Australia; he accepted the post because in financial need. He remained in Sydney for five years. In 1859 he again entered Univ. College as a student, proceeding in course to the B.A. and M.A. degrees of the Univ. of London. Not long after taking his M.A. degree, he was appointed tutor at Owens College, Manchester. In 1866 he was elected prof. of logic and mental and moral philosophy, and Cobden prof. of political economy there; in 1876 he exchanged the Owens professorship for the political economy chair in Univ. College, London; in 1880, owing to ill-health, he resigned. He wrote a number of books on logic and political economy between 1864 and 1880. His letters and *see* were ed. by his wife and pub. 1886. *See* L. Liard in *Les Logiciens anglais* (vi), 1878.

Jew, The Wandering, legendary Jew who, for some insult offered to Christ at the time of His Passion, is doomed to wander eternally throughout the world. The story is of no antiquity and does not appear at all in the E., no reference being made to it even in the great work of Jean d'Outremeuse. The tradition varies con-

siderably, and no two versions agree as to the name of the Jew. The chronicle of St. Albans Abbey for 1228 tells of the visit of an Armenian bishop who gave an account of the W. J. under the name of Kartaphilos. According to this version, he was a door-keeper of the Judgment Hall, and as Jesus passed out he struck Him saying, 'Go, Jesus, go on faster,' to which the Christ replied, 'I go, but thou shalt tarry till I come again.' Matthew Paris in 1228 continuing the same chronicle, tells us that Kartaphilos was baptised by Ananias under the name of Joseph, and henceforth, at the end of every hundred years, falls into a trance from which he wakes to find himself at the age of thirty, the age at which he was when he struck Jesus. The 'rhymed chronicle' of the W. J. was written in 1242 by Philip Mouskes, afterwards bishop of Tournai. The version given by Paul von Witten, bishop of Schleswig, in 1547, has it that Jesus, overcome by the weight of His cross, stopped to rest at the door of a cobbler, by name Ahasuerus, who pushed Him away saying 'Away, with you! Away!'; to which Jesus replied as in the version previously given. In Ger. legend the W. J. is associated with Johann Buttadaeus (or Bultadaeus) who is alleged to have been seen in Antwerp in the thirteenth, fifteenth, and sixteenth centuries (Monzel, *History of German Poetry*). In Fr. legend he is called Lakadion or Laquedem (Mitternacht, *Dissertation in Johan*). The Fr. novelist Alexandre Arnoux in July 1931 issued a book, *Carnet de Route du Juif Errant*, in which the eternal wanderer tells some of his supposed adventures in various ages and lands. In Eugène Sue's Fr. novel *Le Juif Errant* (1845) the Jew is named Salathiel, as also in G. Croly's novel *Salathiel* (1827). In both the course of the Jew is traced, but in neither is the Jew a figure of strong import, less indeed than in Southey's poem *The Curse of Kehama*, where, however, considerable violence is done to legend.

Jewel, John (1522-71), Bishop of Salisbury, b. at Berryharbor, near Ilfracombe. He was educated at Barnstaple and Oxford, where he became a lecturer. He defended the Eng. Church against Rome in his *Apologia Ecclesie Anglicane* (1592). He spent some time abroad during Mary's reign, but returned to England on the accession of Elizabeth and was made Bishop of Salisbury.

Jewellery, derived from the Fr. *jewel*, has in France two distinct branches concerned in the making of personal ornaments. J., *Bijouterie*, the working of ornaments in gold, silver, or any other metal, mineral, or material, often set with diamonds; *Joaillerie*, which is concerned in the making of mounts, with open backs, and setting therein fashioned precious stones, mainly diamonds. The making of J. is the oldest of the crafts, an ornament for the head probably being the first type, or a necklet made of almost any material, threaded korries, stones with natural holes, shells, bone, teeth, amber, jet, etc., colour, as to-day, playing an important part in



FIRUSAN ORNAMENTS IN GOLD
FOUND IN RHINLAND

the crude conceptions of early man. Five thousand years have elapsed since the goldsmiths of Ur of the Chaldees produced very delicate examples of the jeweller's art, using practically the same methods as are employed to day. Like later Greeks and Etruscan goldsmiths they relied almost entirely on gold for effect. The consummate craftsmanship of these people as shown in the museums, included wire and grain work which has never been equalled and delicately plaited broad bands comparable to the admired Milanese bracelets of to day, but infinitely finer. Imitation gems were used by Egyptian jewellers five thousand years ago to give notes of colour, and glass beads were also being made. Dainty necklaces of gold or gold capped stone beads were made in Ur at least four thousand years ago. These would appear to be the golden days of J. The commonest forms are finger rings, necklets, earrings, brooches and bracelets. Finger rings like the signet, served a useful purpose, men's neck chains were signs of authority, and remain so to this day. Bracelets were used for decorative and offensive as well as defensive purposes. Gold and silver enamelled and set with bright coloured gem-stones distinguish Byzantine, Arab, Medieval, and Renaissance J., as also that produced during the weak Gothic revival about 1830 and, to some extent, in the rococo period of the Victorian era. To the opening up of the diamond mines in Golconda and Hyderabad in the seventeenth century may be traced the greatest revolution which has taken place in the design and making of J. Prior to this, diamonds were polished on their natural facets, and the highest form of cutting was the 'table cut'. Then came the 'rose,' flat at the back, with small facets on the curved top, followed in 1643 by the *tallée-en seize* 'rose,' which was methodically

cut with sixteen facets. The invention of what is termed the 'brilliant' by Vincenzo Peruzzi at the closing of the seventeenth century made the greatest change, though slow, in the design and construction of J. *Joailerie* began to supersede *Bijouterie*, and the diamond definitely commenced its domination in the seventies of the nineteenth century. The discoveries of the great mines in S. Africa greatly strengthened a growing fashion, the diamond (q.v.) mounter became the more important factor, and the revolution became complete so far as the larger and finer pieces of J. are concerned. Diamonds were first set into very slightly conventionalised floral forms, the base of which was silver fronted gold. Then another change took place, and platinum superseded the lumpy and not very rigid mount which was so easily affected by handling and atmosphere. Gradually design changed and from the naturalistic floral type grew J. with a flavour of the Renaissance, and ultimately the saner vogue we see to day. In this diamonds and hued coloured gem stones are used as definite units in a design, and not to fill an area without taking them seriously into consideration. Meanwhile, the art of the original type of jeweller had been kept alive from the end of the nineteenth century up to 1925 by such men as René Lalique, René Boy, and Georges Fouquet in France, Hugo Schaefer in Germany, and Henry Wilson in England, who considered artistic handling of material more than its intrinsic value.



PENDANT WORN BY QUEEN MARY
OF ENGLAND (1551-58)

The painting of the queen, by Antonio Moro, in the Prado, Madrid, shows her wearing this historic jewel. The pearl was found in 1513, and the pendant was variously in the possession of Ferdinand V of Spain, Queen Mary, Napoleon III., and (1931) the duchess of Abercorn. It is known as 'La Pelegrina'.

After the Paris exhibition of 1925, jewellers discarded nature as the source for design and drew their inspiration from geometrical motifs. This phase has passed, and present trend has returned to floral, bow, and ribbon motifs. Increasing use of gold in form of coloured alloys, red, white, green, grey, with platinum, is evident. Palladium, because of its lightness, is being used. The prin. types of cut in vogue are, besides the brilliant and rose, the emerald or trap-cut, marquise, and in particular, a lavish use of narrow rectangular diamonds, called baguettes, when small, and batons when somewhat larger. An innovation dating from the Paris exhibition of 1937 is 'invisible' setting, the masking of cut gems without sign of the metal mount showing at all. The prin. centres in which J. is manufactured are London—at one time Clerkenwell was the centre, but during the last quarter of a century the industry has gradually migrated to the W. End—Birmingham, Paris, Brussels, Vienna, Berlin, Pforzheim, and Hanau. See C. J. Davenport, *Cantor Lectures on the History of Personal Jewellery from Prehistoric Times*, 1902; H. Clifford Smith, *Jewellery*, 1909; G. F. Herbert Smith, *Gemstones*, 1912. 1949; Joan Evans, *English Jewellery from 5th Century A.D. to 1800*, 1921; A. Selwyn, *Retail Jewellers' Handbook*, 1915; L. Wiener, *Handmade Jewellery*, 1918.

Jewish Autonomous Region (R.S.F.S.R.)
see BIROBJAN.

Jews. The early hist. of the Hebs. has been given in the article ISRAEL, and here a sketch will be given of the hist. of the Jewish people from the fall of Jerusalem in A.D. 70 until the present day. The fall of Jerusalem did not mean that the J. were doomed. The J. rebelled again in A.D. 115-117, this time in Babylonia, Egypt, Cyrenaca, and Cyprus (particularly in the last two ters.) and in 132-135. The discontent and desperation of the J. of Judaea, increased by the fact that Hadrian contemplated the estab. of a pagan city on the site of Jerusalem, led to the general revolt in the year 132 under Bar Cochba (q.v.), supported by the Rabbi Akiba. He kept up the revolt for three years. The rising was so successful that Rome determined to make a repetition impossible and, in A.D. 135, Jerusalem was destroyed and its site ploughed up. The ter. of Jerusalem was turned into a Rom. colony under the name of *Elia Capitolina*, and no J. was allowed even in its vicinity. The name of Jerusalem was henceforth to be obliterated from the mind of man. Many of the pop. were put to death and many more carried off to slavery. From that time Palestine steadily sank into obscurity. Its diminished pop. dwindled still further. The most violent methods were used by the Romans to reduce the J., and all J. throughout the Empire shared in the oppression. One of the most far-reaching effects of the Judeo-Rom. wars, and of the subsequent destruction of the Jewish national centre, was the wide dispersion of that people, which has remained to this day one of its distinguishing features. While the J. who had

spread themselves over most of the rest of the world increased and multiplied, there were soon only a few thousand of them left in their former homeland. Thus Jewish hist. for the time being ceased to be that of Palestine and became that of the Dispersion (*Diaspora*), which, however, really began long before the disaster of A.D. 135, large communities having already grown up in Babylonia, Egypt, Syria, the Yemen, and many other countries.

The Babylonian J. had formed a separate community since the time of the Exile, and had spread far and wide over the domains of the Persian Empire. These J. were at first of little importance from the religious point of view, but their intellectual status was raised by the arrival of leading personalities of Judaea deported by Nebuchadnezzar to Babylon in the sixth century B.C. Babylonian J. were headed by the 'Prince of the Captivity,' who claimed descent from the house of David, and lived in semi-regal state. In the same period and in the centuries which followed, large numbers of J. had also settled in Egypt, where they also formed military colonies for the defence of that country, such as Elephantine. In the later centuries they congregated at Alexandria. Here had arisen the philosophic schools of Hellenic Judaism such as that of Philo Judaeus. It is, indeed, significant that the Egyptian J., unlike the founders of the Hasmonaean (see MACCABEES) State, did not resist 'assimilation.' On the contrary they became completely 'Hellenized,' abandoning their ancient tongue for Gk. and adopting Gk. names. The Septuagint, the earliest Gk. trans. of the Heb. was their work. The J. had also travelled far and wide throughout the W., and everywhere they had met with a considerable measure of toleration. After the fall of Jerusalem, the J. were left stunned under the catastrophe. The rally of Judaism is due largely to Rabban Jochanan ben Zaccai, considered as a disciple of Hillel, who, having escaped from the besieged city, obtained permission from Emperor Vespasian to make Jamnia (Jabneh) his new centre. This place then became the seat of a great rabbinical academy, and of the reconstructed Sanhedrin. Here the study and development of the Torah received a fresh impetus, and the canon of Jewish sacred scriptures was finally settled by Rabbi Akiba. For centuries the religious head of the Jewish people was the president of the Sanhedrin at Jamnia. The great product during the first two hundred years of Jewish scholarship is the Mishnah, a collection of the results of the study of the Torah in Palestine and Babylonia, which may be considered a *corpus* of Jewish law. This was incorporated three hundred years later in the Talmud (q.v.).

It is sad to record that a period of years of oppression began for Judaism with the accession of Constantine (after having extended to Christianity all the privileges and rights that hitherto paganism alone had enjoyed), though at first the statutes directed against the J. aimed more at

restriction than at persecution. After the div. of the empire, the J. in W. Europe were deprived of the privileges granted them by previous emperors, and the canons of the Church councils of the period throw much light on the way in which they were regarded. They had a favourable period, however, under the Carolingians.

Meanwhile the spiritual leadership of Jewry passed into the hands of Babylonian J. who showed much intellectual activity. In 614, when Jerusalem fell into the hands of the Persians, the J. entered the city with the conquerors; but their triumph was short-lived. Everywhere, however, both in E. and W. we find them most active in commerce, engaged everywhere in ministering to the needs and luxuries of civilisation. The period from about 700 to 1100, though one of the darkest ages in Europe and of growing persecution of the J., has been described as the 'golden age of M.E. Judaism,' and, during this period (apart from the great E. Jewish luminaries, such as the Gaon Saadia (*Arabic* Sa'id) ben Joseph, of Fayûm (Upper Egypt), 892-942), one particular band of J. stands out in great prominence. The J. of Spain were, during that period, the representatives of the world's greatest culture. Here they flourished under the favourable rule of Islam. The rise of the Hispano-Jewish colleges dates from the arrival at Cordova of Moses ben Enoch, who had been ransomed from slavery by his co-religionists. Aided by the munificence of Chasdal ibn Shaprut, the schools of Cordova rapidly became flourishing centres of letters and of Talmudic study.

In all depts. of learning J. now became prominent. Monachem ben Saruk and Dunash ben Labrat were poet, and early students of Heb. grammar, who were soon superseded by Jonah ibn Janach, the great master of Heb. philology, who died in 1050. Some of the most beautiful of Heb. poetry was also produced at this time. The foremost of the Payetanin or liturgical poets was Eleazar ben Kalir, whose poems have now a place in the service of certain Jewish holy days. One of the greatest of Jewish poets was Solomon ibn Gebirol (1021-70), whose best-known poem, *Kether Malchuth* (The Crown of Kingdom), has been incorporated into the liturgy for the eve of the Day of Atonement. Judah Halevi (c. 1086-c. 1142) has been described as the greatest Heb. poet since the time of David, and his poems are remarkable for depth of emotion and beauty of expression. Abraham ben Meir (Ibn Ezra of Toledo, c. 1088-1167) was one of the finest Bible commentators. He also visited London, where he wrote an important work. Solomon ibn Gebirol was less famous as a poet than as a philosopher, for he first introduced, indirectly, the Gk. philosophy (as interpreted by the Arabians) to the Christians of the Middle Ages. His *Fons Vita* is a systematisation of the Gk. and Arabic philosophy, which formed later an important source of scholasticism. Medieval Judaism culminates in the figure of the intellectual giant Moses Maimonides

(1135-1204), born at Cordova. On the taking of that city by the Almohades (q.v.) the J. and Christians were compelled either to accept the faith of Islam or to emigrate if they wished to escape death. He wandered to another Sp. city, then to Fez in N. Africa, and later to Palestine, where twenty years after, being a physician by profession, he became attendant on the famous Saladin. Not only was he master of medicine but also of philosophy. He was the codifier of Jewish law. In his *Mishneh Torah* he made a systematic whole from the unwieldy mass of Jewish traditional law. In the *Moreh Nebuchim* (Guide to the Perplexed) he gave an exposition of the philosophy of Judaism as he saw it. This work, from its rationalistic bias, caused some dissensions in the Jewish communities of Christian W. Europe. Though the Sp. schools stand supreme during this period, similar institutions not destitute of learned men are to be found in France and Germany. The greatest of the Franco-Ger. Jewish luminaries was Rabbi Solomon Yischaki, known (from his initials) as Rashi. The Rashi commentary to the Talmud is most generally used in the Jewish traditional schools and academies known as *Yeshivot*. Rashi was born c. 1030 in Troyes (Champagne) and died in 1105. On the whole, however, Franco-German scholars did not attain to the polish and versatility, as well as the philosophical breadth of view, which distinguished their Sp. brethren, but they possessed in an abundant measure moral earnestness and deep piety.

But during all this period, while Judaism had been producing its ripest fruits of learning in Europe, the clouds had been gathering. Though treated as obnoxious strangers and unbelievers, at least the J. in the Carolingian empire, and even in England and Christian Spain, found some justice and occasional favour as a useful mercantile class in a state of society in which religion and arms were the only tolerable occupations. Regarded by the rulers as a very valuable source of revenue, even as an indispensable adjunct of the pop. and competing with none of them, the J. not only enjoyed the protection of the authorities, but also largely the passive good-will of their neighbours. The crusades were more instrumental than anything else in changing the condition of the J. for the worse, accompanied as they were, by wholesale massacres. The fury which had possessed the Crusaders and caused them to attack the 'Saracens of Europe' rather than the Saracens of Asia was felt in the different countries themselves. The J. had always been a separate community dwelling in the land, but not forming part of it, and this isolation led to the levelling of the most extravagant charges against them, which were eagerly believed by the credulous vulgar. Many of these charges, such as that of the slaughtering of children for ritual purposes, were, strangely enough, identical with those levelled against the Christians themselves during the first centuries of Christianity. Moreover, the wealth of

the J. made them fit objects for pillage and spoliation. The J. were excluded from possession of the soil, and from every honourable profession or handicraft. They were thus driven to money-lending, and in this pursuit acquired a reputation for avarice and extortion only less than that of the sovereigns and nobles who made use of them.

To England the J. came in large numbers with Wm. the Conqueror, and settled in the large tns. In 1144 there was a great disturbance over the accusation made against the J. of Norwich of having slain a Christian boy, known afterwards as St. William of Norwich, for their Pass-over. Such accusations continually recur in the years that follow, and the case of little St. Hugh of Lincoln, narrated by Chaucer in the *Prioresse's Tale*, is well known. The most serious event in the hist. of Jewry in medieval England occurred when a deputation of leading J. appeared at Westminster for the coronation of Richard I. in 1189. They were attacked by the mob, and a report spread that the king had ordered a general massacre. A very good attempt to carry out this supposed order was made in London and many other tns. The massacre was particularly great in York. Finally, at the end of the thirteenth century a decree was issued banishing all J. from the realm and confiscating their belongings, and by Oct. 9, 1290, 16,511 J. had left England.

In Central Europe, the lot of the J. was even more unfavourable. Only in Italy, under the influence of the popes, and particularly in Turkey and Poland, was any toleration allowed them. In other countries they were perpetually subject to extortion and persecution, and any peace that was given them seems usually to have been merely a breathing time that they might accumulate more material for plunder. They were now kept rigidly apart from Christians, confined to particular quarters of the tns. they lived in, known as ghettos, and often obliged to wear a yellow badge to distinguish them from other people. Many of them, especially in Germany, left their homes and with those expelled from France and England sought refuge in Poland and Lithuania (then in 'union' with Poland), where the J. achieved religious autonomy; regular synodal assemblies (called Va'ad Arba' Arazoth) were convened, which greatly helped to maintain unity. In the early seventeenth century a good deal more than half the J. in the world were congregated in that belt of country. The Polish kings protected them, but the respite was short-lived. In the ten years (1648-58) of the massacres by the savage Cossacks (q.v.) and in the Polish-Russian and Polish-Swedish wars a great number of J. (250,000 to 500,000) lost their lives. With the three partitions of Poland (q.v.) in the late eighteenth century, over a million J. came under Russian rule. A sort of territorial ghetto, the Jewish 'Pale of Settlement,' was estab. from the Baltic to the Black Sea near Odessa, and throughout this area the urban ghetto system was imposed.

It is hardly necessary to speak of Spain during the latter half of the Middle Ages. The atrocity of the Inquisition in that country is a byword. These persecutions in Spain caused many of the Sp. J. to make an outward profession of Christianity, and, if we may judge from the words of Torquemada, Grand Inquisitor during the latter half of the fifteenth century, many of these 'Marranos' (Sp. J. who, outwardly, but not from secret conviction, accepted the Christian faith) held high positions in the Catholic priesthood. Finally it was resolved to expel all J. from the Sp. domains, and in 1492 some 200,000 Sp. J. left their homes and the graves of their forefathers. Some went to Portugal, some to Holland, S. France, or Italy. Others sought a refuge in Ottoman terr., where they were warmly welcomed by the Sultan Bajazet II.

During this period of oppression the learning of the previous age turned to mysticism and the intricacies of the Talmud. To the mystic belongs the *Cabbala* (q.v.) strange medley of Jewish religious philosophy and spiritual quackery. To the same trend of thought may be ascribed the rise of many pseudo-Messiahs such as David Reubeni and Solomon Molcho (1510). More important still was the Turkish Jew, Sabbathai Zevi, who assumed the rôle of the Messiah in 1666, and was acclaimed by thousands of enthusiasts. The Reformation did not at first produce any change in the attitude of the Christian states towards their Jewish subjects. But the spread of the New Learning led to an intelligent interest being taken in the productions of Jewish scholars, and a landmark in the rise of tolerance is marked by the pub. in 1706-11 of Jacob Christian Basmage's *History and Religion of the Jews since Christ to the present day*. The seventeenth century also saw the rise of the famous Benedict Spinoza (1632-77), one of the greatest men that Jewry has produced. But centuries of oppression had done its work, and by the middle of the eighteenth century, when external affairs were about to take a turn for the better, the general conditions of the J. had sunk to a low ebb. As a whole, the J. remained a class of social pariahs, petty traders, or artisans despised by all.

But, during the years that have passed since then, a marvellous evolution has been seen. As the J. have become enfranchised, they have produced a host of men of distinction in all walks of life. Numerous are the outstanding men of Jewish origin in science, art, politics, and other fields: Mendelssohn, Disraeli, Hertz, Rufus Isaacs (Marquess of Reading), Ehrlich, Einstein, Gompertz, Mond, Schwarz, Graet, A. von Wassermann, Henle, Freud, Balilk, Heine, J. Wassermann, E. Ludwig, S. Zweig, Werfel, Kafka, G. D. Ascoli, Schnitzler, Zamenhof, and many others. Especially has progress been seen in the sphere of political activities. In this connection we can only deal with England. In 1793 the words 'On the true faith of a Christian' were removed from the Jewish oaths. In 1753 a Jewish Naturalisation Bill was passed, but such

was its unpopularity that it was repealed in the following year. In 1833 began a series of unsuccessful attempts to remove Jewish disabilities, the Bills being invariably thrown out by the House of Lords. A compromise by which Baron de Rothschild, who had been elected for the City of London, was allowed to sit in parliament, was arrived at in 1858, and in 1860 the parliamentary oath for both Houses was permanently amended. But Jewry has been fated never to obtain freedom and security for all its people at one time. As a set-off to their recovery in W. Europe, a new foe appeared in 'Anti-Semitism'—now because now, in the nineteenth century, the attack was grounded not on creed but on 'race'. The movement began in Germany about 1880 and spread throughout Central Europe, and the Dreyfus Case was evidence enough of the hold it obtained in France. It revived, too, the old intolerance in Russia. From 1881 onwards the plight of the J. in Russia was almost as bad as it had been in W. Europe at the time of the Crusades. A series of pogroms was initiated and repeated from time to time till as late as 1910. Between 1880 and 1910 at least 3,000,000 J. fled from E. Europe. Many found refuge on Brit. soil, in England or in the dominions; but the great majority went to the U.S.A. In 1870 the number of Amer. J. was roughly about 250,000; in 1910 it was about 1½ millions.

Jews in the First World War Period and After.—The First World War and the turmoil and confusion that followed caused widespread suffering and loss of life to Jewish people. The reasons for this were that during the War great areas in which the proportion of J. to the other inhabitants was large were constantly battle-wreathed, and in successive hordes and retreats the J. were frequently victims of the anger of both sides, as well as suffering from the ordinary ravages of war; throughout most of the European countries involved in the War much suspicion was naturally felt towards all alien or semi-alien peoples; even when order and discipline were good, the J. were subjected to many disabilities, but when restraints were broken down long-felt suspicion flamed into persecution; the War broke out at a period when great numbers of the ignorant and superstitious people of Central Europe were stirred up against the J. by means of fantastic stories of ritual murders which had gained currency. The sufferings of the J. in Russia were particularly severe, becoming, if possible, more tragic at every new change that swept over that country. The stern official discipline under the Czarist régime bore particularly heavily upon them, restricting their freedom of movement and emphasising the severity of their disabilities. The first revolution, with its consequent disorganisation, deprived many people of legal protection, and particularly those who were unpopular. In some areas individual J. were creditors to whom their neighbours owed money, and the chance of cancelling debts by means of violence was often a direct incentive to crime. As the largest

body of individualists in a Communist state, the J. suffered most of all by the change to the Soviet Gov.

After the First World War, under the special treaties relating to the separate countries, the J. received equitable treatment. It is to the credit of the U.S.A. that very much of the inspiration to help the J. came from their delegates. In the first important treaty, that in which the constitution of the new state of Poland was treated, especial care was taken to safeguard their citizen rights, particularly in connection with the Jewish unwillingness to perform work on the day of their Sabbath. Similar provisions were made in the peace settlements with the S.E. European nations, work which the League of Nations continued at the close of the Peace Conference. The very interesting development of western Palestine as a national home for the J. was one of the most dramatic post-war national movements. (For this, and for an account of the work done by the Zionists in the development of modern Palestine, see ISRAEL; JERUSALEM; PALESTINE.)

Anti-Semitism flared up anew in Nazi Germany and there were constant attacks on J. from 1932 onwards. Anti-Semitism, indeed, formed almost the central feature of the 'philosophy' of Hitler's *Mein Kampf* (q.v.) and, under the so-called *Arvan Paragraph*, J. were first expelled from the civil service; afterwards, Jewish lawyers, doctors of medicine, dentists, teachers, and editors of journals, were deprived of their livelihood; finally, Jewish business-men were boycotted, the peasantry purged of 'non-Aryans,' and Jewish trade union officials removed. By the close of 1933 all J. were, in effect, 'denationalised' and deprived of all civic rights. At the beginning of 1932 there were some 600,000 J. in Germany. Thousands fled to other countries and it is one of the tragic ironies of hist. that some five or six years later, when Nazis had overrun most of Europe, the refugees found themselves persecuted anew and quite often by those amongst whom they had sought a new home.

It seems probable that the total number of J. slaughtered by the Gers. during the Second World War was not far short of 5,000,000. According to the Inter-allied Information Committee the number of Jewish victims deported or perished in Axis-controlled Europe between 1939-42 was 2,000,000, while another 5,000,000 were in danger of extermination. In Belgium the actual extermination of the J. was decided upon in May 1942 and, according to Ger. statistics, 25,000 of the 52,000 J. living in that country in 1941 had been deported by the Gestapo. On the day of the Ger. occupation of Czechoslovakia there were 90,000 J. in Bohemia and Moravia and 95,000 in Slovakia; by May-June 1942 more than 74,000 had left Bohemia and Moravia and 65,000 had left Slovakia—all for Polish ghettos where they were cruelly exterminated. The J. in France, Holland, and Norway suffered in the same way. In Yugoslavia Ger. sadism had

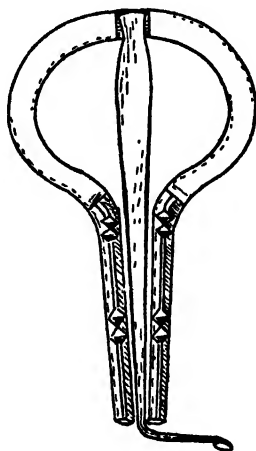
resulted in the murder of 85,000 of the 86,000 J. in that country since the Ger. invasion (April 6, 1941). From the very first moment of the occupation of Poland by the Gers. the J. were the object of especial persecution. Murder and robbery were the order of the day. On Nov. 1, 1940, a ghetto was organised in Warsaw and J. were forbidden to leave its walls. In this ghetto and indeed in all the other ghettos, conditions were appalling. In some houses up to 1000 persons lived; individual rooms accommodated an average of 13 persons. Typhus and other diseases took heavy toll of the starved and half-starved. This terrible plan of systematic murder was considered too slow by the Gers., however, for in March 1942 more direct methods of annihilation were instituted. Himmler (*q.v.*), after a brief stay in Warsaw, issued an order that half the number of Polish J. were to be killed in one year. Deportations were, accordingly, begun on Aug. 17 and 10,000 persons were removed daily, while in the meantime a special Extermination Commando had been organised and trained in murder beforehand in Germany. Places of execution were organised at Chelm and Belzec, where those who survived the shootings were murdered en masse by means of electrocution and lethal gas. In fact the Gers. had transformed Poland into one vast centre for murdering J., not only those of Polish nationality, but those of other European nationalities also. See also AUSCHWITZ (OSWIECIM); BEISEN; BUCHENWALD; CONCENTRATION CAMP; DACHAU. The Anglo-U.S. Palestine Report shows that during the war of 1939-45 the Jewish pop. of Nazi-occupied Europe was reduced by slaughter and starvation by 5,721,600, or more than half the 1939 total. Statistics, however, vary. It is estimated that, before the sack of Jerusalem in A.D. 70, the J. numbered 4½ million. At the close of the fifteenth century there were only 1½ million. Before the Second World War there were, according to one widely-accepted estimate (Arthur Ruppin) some 16½ million J. in the world, of which 4½ million were in the U.S.A. Of the 10 million in Europe, 9 million were in central and E. Europe—3 million being in Poland. These totals are more or less confirmed by the Jewish Year Book and by the Amer. Jewish Committee. These sources give the 1939 total as 16,838,000 (Europe 10,000,000; Asia, 830,000; Africa, 600,000; America, N. and S. 5,375,000; and Oceania 33,000); the 1945 total as 11,000,000, the total for Europe having declined to 4,224,600.

See M. Joseph, *Judaism as Creed and Life*, 1903; G. F. Abbott, *Israel in Europe*, 1907; N. Sokolow, *History of Zionism*, 1919; R. Kittel, *Geschichte des Volkes Israel*, 1923-27; P. Goodman, *History of the Jews*, 1924 (new ed. 1949); E. R. Bevan and C. Singer, *The Legacy of Israel*, 1927; L. Magnus, *The Jews in the Christian Era*, etc., 1929; M. M. Kaplan, *Judaism as a Civilisation*, 1934; A. Ruppin, *The Jews in the Modern World*, 1934; J. L. Landau, *Judaism Ancient and Modern*, 1936, and *Judaism in Life and*

Literature, 1936; S. W. Baron, *A Social and Religious History of the Jews* (3 vols.), 1937; C. Roth, *The Jewish Contribution to Civilisation*, 1913, and *A Short History of the Jewish People*, 1948. See also ZIONIST MOVEMENT; and HEBREW LANGUAGE AND LITERATURE.

Jew's Ear, or *Hirneola Auricula-Judae*, fungus shaped somewhat like an ear. It is found chiefly on elders, and was given its name from a legend that Judas hanged himself on an elder tree.

Jew's Harp, or Trump, small musical instrument, consisting of an elastic vibrating steel tongue riveted at one end to a frame of brass or iron. The narrow free end is at right angle to the vibrating piece. The instrument is held between the teeth, while the metal tongue is twitched by the forefinger. Sound is increased in intensity by the breath, and altered in pitch by the shape of the mouth's cavity.



JEW'S HARP

Jew's Mallow, or *Corchorus olitorius*, species of Tillaceae found in India and in other tropical countries. It is an ann. growing to a height of from 12 to 18 ft., and yields a very valuable fibre.

Jew's Thorn, see PALIURUS.

Jex-Blake, Sophia (1840-1912), Eng. doctor b. in Sussex, and was sister to Thomas Jex-Blake, D.D. She was mathematical tutor of Queen's College, London, from 1858-71, and in 1866 began to study medicine in Boston, U.S.A. She returned to England in 1868, and matriculated in the medical faculty of the Univ. of Edinburgh in 1869. In 1874 she founded the London School of Medicine for Women, and in 1878 opened a dispensary for women and children in Edinburgh, and a cottage hospital in 1885. In 1886 she founded the Edinburgh School of

Medicine for Women. She pub.: *American Schools and Colleges* (1867), *Medical Women* (1872), *Care of Infants* (1884), and *Puerperal Fever* (1877).

Jezireh Ruad, see ARAD.

Jeypure, see JAIPUR.

Jezeel, city of Canaan situated on a spur of the Mt. Gilboa range, and 11 m. distant from Nazareth. It was the well-known cap. of the Israelite monarch Ahab; here it was that Ahab coveted Naboth's vineyard, and here the Queen Jezebel had Naboth murdered. The modern vil. Zer'in, built of stone, stands on a bare and rocky knoll, where the remains of anct. cisterns and old sarcophagi are still seen.

Jezeel, The Plain of, see ESDRAELON.

Jhabua: (1) State in the Bhopawar Agency, Central India, has an area of 1336 sq. m. Now affiliated in the Madhya-Bharat group. It is mountainous and little cultivated; opium is the most valuable product. Manganese is obtained in small quantities. Pop. 80,000. (2) Tn., cap. of above state, 80 m. W. of Indore, with an important trade in opium. Pop. 4000.

Jhalrapatan, see under JHALAWAR.

Jhalawar, state in S.E. Rajputana, India, has an area of 3043 sq. m., now included in Rajasthan (q.v.). The chief crops are maize, cotton, and wheat. The exports are oil seeds, opium, brassware, and cotton. The cap. is Jhalrapatan, an anct. city of archaeological interest. Pop. 100,000.

Jhang: (1) Dist. in the Multan div. of the W. Punjab, Pakistan, has an area of 4000 sq. m., nearly all of which is under cultivation. Owing to the construction of the Chenab and Jhelum canals the soil is well irrigated, and wheat, millet, oil seed, and maize are grown. Pop. 600,000. (2) Chief tn. of above dist., forms a joint municipality with Maghiana, 2 m. away. It manufs. brass ware, soap, and leather, and has considerable trade in grain. Pop. 30,000.

Jhansi, city and dist. of India, in the United Provs. The city is 60 m. distant from Gwalior, and is the central point of the Indian Midland railway (amalgamated with the Great Indian Peninsular railway) from which four lines diverge to Agra, Cawnpore, Allahabad, and Bhopal. The dist. of J. is included in the country of Bundelkhand, and is watered by the three important rvs., Pahuj, Betwa, and Dhasan. The fort and tn. of J. were taken by the Brit. in 1853. The city was the scene of rebellion and massacre in the Mutiny of 1857, but was regained by the Brit. in 1858. J. State lapsed in the governor-generalship of Dalhousie owing to the lack of an heir to the 'gadi' and was therefore taken over by the Indian Gov. Area of dist., (including Lalitpur) 3630 sq. m. Pop. (city) 80,000.

Jhelum, tn. on the Jhelum R.; is the headquarters of the dist. of Jhelum, W. Punjab, Pakistan. It is the distributing centre for most of the trade of the dist. Timber from Kashmir forests is collected here, and boat-building is carried on. After the Second World War the Punjab Forest dept. speeded up the reclamation of

eroded land in the J. dist. by the employment of modern equipment made available from surplus war stores. Pop. 18,060.

Jhelum, The, or Jehlam, anct. Hydaspes, is one of the five rvs. of the W. Punjab in Pakistan. It rises in the hills of Kashmir, and is navigable for about 70 m. in that state. It flows through Walur Lake, thence through the snow-clad Himalayas. Upon its emergence from these mts., via the Baramula Pass, it again becomes navigable. About 250 m. from its source it enters the plain of the Punjab, and after another 200 m. joins the Chenab, also one of the five rvs., at Timmu. In the J. valley is situated the lovely and world-famous 'Happy Valley' of Kashmir.

Jhering (or Ihering), Rudolf von (1818-1892), Ger. jurist, b. at Aurich in E. Friesland. He was educated at the Univ. of Heidelberg, and at Göttingen and Berlin. Later he was a prof. at Basel, then at Rostock, in 1849 at Kiel, and in 1851 at Gießen. He set forth a fresh view of the Rom. law, adapting the old as the basis for a new system of jurisprudence. He gained a great reputation, and in 1868 was offered the chair of Rom. Law at Vienna, which he held until 1872, when he went to Göttingen as prof. His chief works are: *Geist des römischen auf den verschiedenen Stufen seiner Entwicklung* (1852-65); *Der Kampf ums Recht* (1872), 1925 (Eng. trans. 1884); *Zurück im Recht* (1877-83); *Jurisprudenz des täglichen Lebens* (1870) (Eng. trans. 1901). See study by M. Rümelin, 1922; and K. Wieland, *Andreas Heuser und Rudolf von Jhering*, 1935.

Jhind, or Jind (1) State in the Sirhind Plain, E. Punjab, India, with an area of 1300 sq. m. The chief industries are manufs. of silver ornaments, leather, and pottery. Pop. 326,000. (2) Tn. 75 m. N.W. of Delhi; contains many anct. temples and places of pilgrimage.

Jib (etymology uncertain, only found in Eng., probably connected with *gibbet*, foremast sail of a ship. It is triangular in shape, and stretches from the outer end of the jib-boom (which is the spar run out from the termination of the bowsprit) to the fore masthead. This is in the case of larger vessels; in smaller craft which have no jib-boom the J. extends from the bowsprit to the masthead. A 'flying J.' is a sail set in addition to the J., and lashed to the 'flying jib-boom', which is an extension of the 'jib-boom.' A 'middle J.' is a sail sometimes rigged in addition to the J. and flying J., extending from the end of the jib-boom when the J. is half-way down it. As many as six Js. may be carried by large vessels, the outmost being called the 'jib of jibs.'

Jibrin, Belt, see BERT.

Jibuti, Jibouti, or Djibouti, see DJIBOUTI. Jicarillas, tribe of N. Amer. Indians which inhabit the N. border of New Mexico. They were once very formidable, but are now subdued and rapidly decreasing in number. They make excellent basket work.

Jidda, Jiddah, see JEDDA.

Jig, sprightly dance tune or measure, as the Irish J. See GIGUE.

Jigger, see CHIGOR

Jihad, Muslim name for a general religious war against Christians, infidels, or other unbelievers

Jihlava, see IGLAU.

Jihum, see OXUS

Jijona, tn in the prov of Alicante, Spain, is 18 m N W of Alicante. A large quantity of fruit and honey is obtained from the dist. It also manufs shoes. Pop 8000

Jilolo, or Halmahera, is of the Molay Archipelago between Celebes and Ceram, has an area of 6500 sq m. It is very irregular and mountainous. The soil is very fertile, the climate tropical, and the chief products are dammar sago, spices, coconuts and fruits. It is part of the Dutch E Indies. The chief tns are Gelolo Galela and Patani. Pop 102,000

Jimena, or Ximena, tn in Andalusia, Spain, is 14 m from Jawn. Its trade is chiefly in the dist produce which includes grain, olives, and wine. Pop 3000

Jimena de la Fontera, tn in the prov of Cadiz, Spain is 20 m N W of Gibraltar. It has a fortified Moorish castle, and manufs leather and rugs. Pop 10,000

Jimenez de Cisneros, see CISNEROS

Jimenez de Cisneros, Francisco, see XIMENES

Jinas (literally the victorious one) as contrasted with the merely awakened one, Buddha) in the Indian religion of Jainism (q v) the deified saints who give the sect its name. A Jina is an omniscient sage who re-establishes the law in its integrity when it has become corrupt. Jainists hold that twenty-four have appeared at long intervals of time. Mahavira, founder of the Jainist sect, was the twenty-fourth Jina.

Jind, see JHIND

Jingo and Jingoism. The derivation of J is uncertain but the modern application was borrowed from the lines of a music hall song by W. Hunt very popular in 1878 the chorus of which ran—

'We don't want to fight but by Jingo
If we do.'

We've got the ships, we've got the men,
and got the money too.

The term J was at that time used as a nickname for those who supported Beaconsfield's anti-Russian policy of sending ships to the E. to assist the Turks against the Russians. From this the term has come to mean any person who advocates a bellicose or chauvinist policy and J, therefore denotes the policy of the Jingles.

Jinn, or Djinn, name of a class of spirits in Arabian mythology. The greatest of them was Iblis, who was formed out of smokeless fire. In the Arabian Nights, they are spoken of as long anterior to Solomon. There are both good and bad J, and among the latter the five sons of Iblis may be mentioned besides the Ghou, which appears in human form, the Seaah, which appears in forests, the Balhan, living on is, and the Shik, shaped like a human being halved lengthwise. Iblis is often made the equivalent of Satan. The J.

are reputed to assume various shapes, and live chiefly in the mts of Kaf but their evil influence can be averted by talismans, etc.

Jinnah, Mahomed Ali (1876-1948) Indian statesman. He was educated at Karachi and studied law in England, being called to the bar in 1906. After seeking Hindu-Muslim unity in vain he came to the conclusion that the policy was misconceived as being very likely to lead to the subordination of the Moslems to twice their number of Hindus. He helped to revive the influence of the Muslim League becoming its president in 1918 and again in 1931 until his death. In 1940 he outlined his scheme for Pakistan (q v) or the separation of Muslim areas from Hindu as far as practicable. He was an able organizer and administrator and the undisputed leader of India's 92,000,000 Moslems. On the partition of India he became the first governor-general of Pakistan.

Jinotega, tn in Nicaragua (Central America) 13 m N W of Matagalpa is the cap of Jinotega dept. Large quantities of coffee are grown in the dist. Pop 7000

Jinotepa, tn in Nicaragua (Central America) cap of the dept of Carazo is 16 m S W of Granada. It is the centre of a sugar producing dist. Pop 7000

Jirreh, see GIRRIH

Jiron, tn in the dept of Santander (Colombia) 17 m N E of Bogota has important gold mines. It has its trade in Panama hats and tobacco. Pop 11,000

Jitomir, see JIOMIR

Jiu-jitsu, see JIUJITSU

Jivaros, or Gibaros, peasant tribe of Amer Indians found in the forests of the Upper Marañon Peru. Though they had frequent internecine wars they always united. They had a custom of mummifying human heads, probably for religious purposes. They were reduced by the Spaniards after the conquest of Peru but won back their liberty in 1931 by a general insurrection.

Jizak, fortified tn in the Smikhin Darya Region (Uzbekistan) is 60 m N E of Samarkand. It is on one of the main caravan routes. In 1868 it was a centre of activity when Russia conquered Bokhara. Pop 0,000

Jmudes, or Zhmudes, name for the Lithuanians who dwell on the shores of the Baltic. The Russians and Poles so designate them to distinguish them from the Lithuanians proper.

Joab (Ichovah is a father) Israelite general the son of Zeruiah was David's nephew and general. The first mention of him occurs in 2 Sam 11 12 ff in connection with the campaign against Abner and Ishb'bal, so it is uncertain whether he was with David during his early hist. He was promoted to the position of general in the army after the capture of Zion, and we later find him as captain 'over all the host of Israel' (2 Sam 18 23), and on terms of great intimacy with the king. He occupies a prominent place in the rebellion of Absalom and the revolt of Sheba. In 1 Kings 1 7 ff. we read how,

at the end of David's life, J. took part in Adonijah's attempt to gain the crown and how he met his death on the accession of Solomon.

Joachim, Harold Henry (1868-1938), Eng. philosopher. His father was a brother of the violinist and his mother was a daughter of the organist and composer, Henry Smart. He himself was a violinist but never played in public. He became Wykeham Prof. of logic at Oxford with a fellowship of New College from 1919 to 1935 and was a writer whose works are well known to students of philosophy. He was educated at Harrow and Balliol College, Oxford. He taught moral philosophy at St. Andrews and then went to Oxford, where he became the foremost representative of the Hegelian tradition. He pub. but few works but all are of outstanding quality: *Study of the Ethics of Spinoza* (1901), *The Nature of Truth as coherence* (1908), and *de Generatione et Corruptione* (1922), both showing a profound knowledge of anc. philosophy. His unpub. lectures on Aristotle have the same authoritative character.

Joachim, Joseph (1831-1907), Hungarian virtuoso violinist, conductor and composer, b. at Kittsee near Pressburg. As a boy prodigy he visited Vienna (1841) and Leipzig (1843), where his talent won Mendelssohn's recognition, and London (1844). At the age of eighteen he became leader in the Grand Duke's band at Weimar; four years later he was appointed to the court of Hanover, and for the next thirteen years continued as director of the royal concerts. From 1862 until his death he appeared regularly every year in London, chiefly at the St. James's Hall and the Crystal Palace, where he became known pre-eminently as the untiring apostle of Brahms. In 1868 he began his official career as a teacher at the Berlin Royal Academy of Arts, and in the following year founded the Joachim quartet, famous for their wonderful playing of Brahms' chamber music. As a composer Joachim was influenced chiefly by Schumann: his finest work is his Op. 11, Violin Concerto in A major, which undoubtedly ranks as a masterpiece. A century programme of his works was performed at Queen's Hall, his grand-nieces Adela Fachini and Jelly d'Aranyi being among the artists. See life by A. Moser, 1898, 1907-10 (Eng. trans. by L. Durham, 1900).

Joachimisthal, tn. in Bohemia, Czechoslovakia, 11 m. N.E. of Carlsbad, gave its name to the *thaler* or *Joachims-thaler*, first minted here (1518). In the sixteenth century it was a mining centre, silver, nickel, and zinc were found. It now carries on manufs. of gloves, paper, lace, and cigars. Pop. 7000.

Joad, Cyril Edwin Mitchinson (b. 1891), Eng. author, specialising in works on philosophy. Educated at Mundell's School and Balliol College, Oxford. John Locke Scholar in Moral Philosophy, 1911. Entered civil service in Board of Trade, 1914, later going to Ministry of Labour, retired 1930. Chairman of the National

Peace Council, 1938. Appointed head of Dept. of Philosophy and Psychology, Birkbeck College, Univ. of London, 1930. Acquired a popular reputation by his answers as a member of the 'brains trust,' a feature of B.B.C. programmes. His numerous publications include: *Essays in Common Sense Philosophy* (1919), *Samuel Butler* (1924), *Mind and Matter* (1925), *The Present and Future of Religion* (1930), *The Horrors of the Countryside* (1931), *The Story of Civilization* (1931), *Philosophical Aspects of Modern Science* (1932), *Liberty Today* (1934), *The Book of Joad* (1935), *Great Philosophies* (1937), *The Testament of Joad* (1937), *Philosophy for our Times* (1940), *The Future of Life* (1944), *A Year More or Less* (1948), and *Decadence*. A *Philosophical Enquiry* (1948).

Joan (1328-85), the 'Fair Maid of Kent,' was the daughter of Edmund of Woodstock, earl of Kent. She became countess of Kent and Lady Wake of Liddell in her own right in 1352, and in 1361 married Edward the Black Prince, with whom she lived in Aquitaine from 1362 to 1371. She protected John of Gaunt and Henry Percy in 1377, when they were fleeing from the infuriated London populace, and in 1385 was successful in healing the breach between her son Richard II. and John of Gaunt.

Joan, Pope, mythical personage, long believed to have filled the papal chair as John VIII, about 855. She was said to have been the daughter of an Eng. missionary, and educated at Cologne. She fell in love with a monk with whom she went to Athens in male attire, but returned to Rome on his death. Here she opened a school, and entered the priesthood, eventually being elected pope, but died during a papal procession. This tale was first overthrown by Blondel in 1647, who pub. an *Éclaircissement de la question*, but was finally and completely refuted by Dollinger in his *Papstfabeln des Mittelalters* (1863; Eng. trans. 1872).

Joan of Arc, St. (Fr. *Jeune d'Arc*). (1412-31), the Maid of Orleans or 'La Pucelle,' was b. in the vil. of Domrémy near Vaucouleurs, on the borders of Champagne, on Jan. 6 of humble parentage. Her extraordinary character and conduct make her one of the most striking figures in hist. From her earliest years she was imbued with an ardent faith and love of religion, and from the age of thirteen, according to her own account, she began to hear the voices of Saints Michael, Margaret, and Catherine commanding her to deliver her country from the Eng. invader and to conduct Charles VI., king of France, to Rheims, to be crowned. Accordingly, after much hesitation, she presented herself before the governor of Vaucouleurs. She was examined by the most intelligent men and counsellors, and at length was given permission to hasten to the deliverance of Orleans, D'Anlon being appointed her constant attendant and brother-in-arms. She donned male dress and a suit of white armour, and mounted on a black charger, put herself at the head of an army of 6000 men, and advanced to aid Dauphin in the siege of

Orleans. She entered the city in April 1429, and forced the Eng. to raise the siege and retreat after fourteen days' fighting, and Charles entered Rheims and was crowned in July of the same year. Enemies soon multiplied around her, and she was at length captured by the Burgundians and sold to the Eng. She was imprisoned at Rouen, condemned as a heretic, and finally burned at the stake. In 1455 a special commission appointed by the Pope rehabilitated her. She was canonised in 1920, and May 8 is now kept as a *fête nationale* in her honour. See A. Lang, *The Maid of France*, 1908; and G. B. Shaw's play (with preface), *St. Joan*, 1924; H. Belloc, *Joan of Arc*, 1929; W. Barrett, *Trial of Jeanne d'Arc*, 1931; V. Sackville-West, *Joan of Arc*, 1936; F. Winwar, *The Saint and the Devil*, 1943; A. Buchan, *Joan of Arc and the Recovery of France*, 1948.

Joan I. of Naples (1327-82), daughter of Charles, duke of Calabria, became queen in succession to her grandfather, King Robert, in 1343. She was first married to Andrew of Hungary, but when he was assassinated at Aversa in 1345, became the wife of Philip, Prince of Taranto. She took refuge in Provence when an inquiry was made concerning the murder of Andrew of Hungary, and purchased her pardon from Pope Clement VI. by selling to him the tn. of Avignon. She returned to Naples in 1362 and married James, king of Majorca, and later Otto of Brunswick, Prince of Taranto. She had no sons and so made Louis I., duke of Anjou, her heir, with the result that Charles, duke of Durazzo, who regarded himself as the rightful future king of Naples, seized the city. J. was captured and executed at Aversa.

Joan II. of Naples (1370-1435), daughter of Charles of Durazzo, king of Naples. She succeeded her brother Ladislas in 1414, and was at that time the widow of Wm. of Austria. She next married Jacques de Bourbon, Count of La Marche, but at the same time chose Count Pandolfello as her lover, who was arrested and executed by her husband, she herself being condemned to religious seclusion. But when she regained her liberty she in her turn had Jacques imprisoned. Her whole reign was troublous, and on her death the throne passed to Alfonso of Aragon, in spite of her attempt to make Louis of Anjou her heir.

Joanes (or Juanes), Vicente (1523-79), Sp. painter, often called 'the Spanish Raphael,' b. at Fuente de la Higuera, in the prov. of Valencia. He studied chiefly at Rome, but his best works are at Valencia. All his subjects are religious, and are marked by a beauty of colour and minuteness of finish.

Joannes Damascenus, St., or Chrysostomos (c. 676-749?), theologian, hymn-writer, and one of the later Gk. fathers, b. at Damascus. He was a member of a Christian family of distinction and was educated by the It. monk Cosmas. He defended the worship of images in a controversy with Leo the Isaurian. He spent his later years in the monastery of Santa Saba, near Jerusalem. Here he

wrote his hymns and other works, which include an *Encyclopedia of Christian Theology*; treatises against Jacobite and Monophysite heretics; disputations against superstitions; homilies; *Barlaam and Jousaph*, a disguised version of the life of Buddha; *Fons Scientiarum*; and *De Imaginibus*. But he is best remembered by his hymns, some of which have been translated into Eng. by Neale. The first good ed. of his works was that of Le Quien, 1712; this was reprinted in 1718. See H. Menger, *Die Bilderlehre des Johannes von Damaskus*, 1938.

Joash, or Jehoash: (1) Son of Ahaziah and king of Judah. On Ahaziah's death the throne was usurped by his wife Athaliah, who attempted to exterminate all the princes of the house of David. But J. was hidden in the Temple by Jehoiada the high-priest, who later placed him on the throne at the age of seven and slew Athaliah. J. at first ruled well, and did much to restore the Temple, but later relapsed into the Baal-worship of his step-mother, Athaliah. He met his death at the hands of an assassin. (2) Son of Jehoahaz, king of Israel, third in the dynasty of Jehu. By three great victories over Ben-hadad, foretold by Elisha, he regained the lands which Hazael had conquered. Provoked by Amaziah's taunts, he then engaged in war with Judah, and reduced it to dependence on Israel. He died about 783 B.C.

Job, Book of (Heb. *ʾIyyōb*), one of the most remarkable books of the O.T., belonging to the section known as the Iliography. The book in its present form divides naturally into five parts: (1) The introduction (chs. i. and ii.) first shows us Job as a prosperous Edomite Emir, whose prosperity is equalled by his godliness and uprightness. At a council in Heaven we hear Jehovah express his approval of Job and also how the Adversary is allowed to torment him in order that his perfect righteousness may be made manifest. In spite of the persuasions of his wife, Job maintains his integrity, but on the arrival of three neighbouring Emirs, his friends, to condole with him, he breaks into a passionate lamentation. (2) The discussion between Job and his three friends, Eliphaz, Bildad, and Zophar (chs. iii.-xxxiii.). This contains three cycles of dialogues, each cycle consisting of three speeches by Job in answer to speeches by each of the three friends in turn. In the last cycle, however, Zophar's silence seems to show that Job has ended the discussion, but some hold that the third cycle is really complete, verses 11-23 of Chap. xxxvii being in truth Zophar, and not Job. (See Froude's essay on Job and the authorities there quoted.) The view advanced by Job's friends is that suffering is inevitably and invariably the result of sin, and that Job's case cannot be an exception. Job, in the consciousness of his innocence, is therefore almost driven to deny the justice of God. He is, however, saved from this, and ends by concluding that sin and suffering in the individual are not necessarily connected, and by adverting God to reveal the reason why he is thus afflicted. (3)

Introduces the speeches of a fresh speaker (chs. xxxiv.-xxxvii.), a young man named Elihu, who had heard the preceding discourses. He expresses his utter abhorrence of Job's utterance against God, and lays stress on the disciplinary value of suffering, a point which had already been slightly noticed by the three friends. (4) The reply of Jehovah out of the tempest (chs. xxxviii.-xli.). It is a series of marvellous poetic pictures of the mysteries of the universe, so presented as to humble Job, and draw from him a confession of his utter ignorance and worthlessness before his Creator. (5) The conclusion (ch. xli.) tells how, having thus humbled himself, Job is restored to double the prosperity he had enjoyed before. The problem with which the B. of J. deals is that greatest of all problems, the mystery of suffering, which must have engrossed the attention of the Jews in the early post-exilic period to which this work must be referred. The text is, unfortunately, in a very corrupt condition, but there is a fairly regular sequence of thought. The Elihu passages appear to be a later interpolation. There is no reason to believe that the story is historical, but it is probably founded upon a traditional legend. It doubtless owes much, however, to the poetic genius of its compiler. A vast amount of literature and art (e.g. Blake's *Vision of the Book of Job*) has grown up around it; the following eds. should be consulted: A. B. Davidson, *Job* (Cambridge Bible for Schools, 1884), and works by T. Cheyne (1897), J. Ley (1899), B. Beer (1895-98), Duhm (1897), C. Buddo (1903), A. Nairne (1935), W. B. Stevenson (1947). See also J. Wicksteed's ed. of Blake's *Vision of the Book of Job*, 1910; H. W. Robinson, *The Cross of Job*, 1938.

Jobber, professional dealer on the Stock Exchange whose business it is to 'make a market' for a special line of securities. He is precluded by the rules of the Stock Exchange from acting as a broker, but can make bargains direct with members of the public provided he does not do so in the House. He can buy securities with the intention of taking delivery, and can sell with the intention of delivering whether he has the shares or intends to obtain them subsequently. Generally speaking a J.'s business is to sell or buy immediately what he has bought or sold respectively. Js. quote securities at two prices, the higher at which they will sell, the lower at which they will buy. The difference is called the 'turn of the market.' When there is a free mkt., i.e. where the securities are being freely bought and sold, the J. contents himself with a smaller 'turn,' or closer quotation, because he knows he will have ample opportunities of getting his profits by converse bargains. Members may not act as brokers and Js. at the same time, and on their ann. application for re-election must state in which capacity they intend to act.

Job's Tears, popular name of the graminaceous plant known botanically as *Cotylachryma*. The fruit resembles tears, and the grass occurs in India.

Jocasta, wife of Laius, king of Thebes

and mother of Oedipus (q.v.). She murdered the latter, not knowing that he was her son, and on realising her crime, took her own life. The story was a favourite theme of Gk. tragedy.

Jocelin, or **Joscelin** (fl. 1200), Cistercian monk, was the author of *The Life and Miracles of Saint Waltheof of Melrose*; *A Life of David, King of Scotland*; and *A Life of Saint Kentigern*; *A Latin Narrative of the Life and Miracles of St. Patrick*. This work was first printed in 1624, and an Eng. version by E. L. Swift was pub. at Dublin in 1809.

Jocelin de Brakelonde (d. c. 1213), Benedictine monk who fl. at the end of the twelfth century. He was a native of Bury St. Edmunds, and became a member of the abbey in 1173. He wrote a chronicle of the abbey from 1173-1202, in which he gives a minute account of the abbot Samson and of his reforms, as well as of the monastic life of the time. J.'s style is clear and pleasing, and it was his life-like picture of Samson which inspired Carlyle to write his essay on the abbot in *Past and Present*.

Jockey Club, see HORSE-RACING.
Jockey Club Stakes, see RACE MEETINGS.

Joculators, see JONGLEURS.

Jode, **Pieter de** (1570-1634), the Elder, Flemish engraver, b. at Antwerp. He studied at first under Hendrik Goltzius but afterwards went to Italy and engraved sev. plates from the works of the great masters. In 1601 he returned to Antwerp and won great distinction by producing various prints after the prin. Flemish painters.

Jode, **Pieter de** (1606-74), the Younger, son of the above, was taught by his father, whom he surpassed in taste and facility. His best works are his portraits, sev. of which he engraved after Van Dyck.

Jodelle, **Etienné** (1532-73), Fr. poet, b. in Paris. He aimed at substituting classical drama for the morality and mystery plays that then occupied the Fr. stage. He produced his first play, *Cleopâtre captive*, in 1552. This was represented before the court, J. himself playing the title-role, and is famous for being the starting-point of Fr. classical tragedy. He also wrote two other plays, *Eugène*, a comedy, and *Dido*, a tragedy which follows Virgil's narrative.

Jodel, or **Jodelin**, see JOYDELLING.

Jodhpur, or **Marwar** (the region of death): (1) Largest state of Rajasthan, India, with an area of 35,000 sq. m. It is generally sterile and covered with sandhills. The Aravalli Hills form the E. boundary. The Luni is the only important riv. There are a few marshes which dry up in the hot weather and yield crops of wheat and grain, and at Sambhar is a famous salt lake. Marble is obtained from quarries at Makrana. The chief exports are salt, hides, marble, brass and lacquer ware, and cotton. Pop. 2,130,000. (2) A tc. cap. of above state, 98 m. W. of Ajmer, contains a magnificent fort on a rock 400 ft. above the surrounding plain, guarding the Maharajah's palace. The masonry is brass and iron ware, and cotton. Pop. 98,000.

Joel, second of the twelve minor prophets, is spoken of in the heading to his book as the son of Pethuel or as many important MSS read of Bethuel. His prophecies contain no clear references to contemporaneous events, nor are the sins for which he rebukes the Jews sufficiently specific to give any clue to his date. The view now generally held is that he prophesied in the reign of Joash king of Judah, though certain important critics hold that he was post exilic. The Book of J consists of three prophecies all closely connected together. The first two chapters tell of a great plague of locusts which he afflicted the land. Many have taken this figuratively as alluding to the armies of Assyria. Then comes the prophecy of the outpouring of the Holy Ghost (ii 28), which is followed by the great judgment of Jehovah over the enemies of Judah in the valley of Joshiaphat. See commentaries by C. A. Giedner 1831 R. Wunsche 1872 H. Grätz 1873 J. Schindler 1922 and L. O. Marx 1922 work on the subject *Die Prophezie des Joels*, 1879 I. D. Muefild, *Les Prophéties du livre de Joel* 1926.

Jœuf, tn in the arron of Brice, n the dept of Meurthe et Moselle, France Pop 9600

Joffre, Joseph Jacques Cesaire (1852-1931) Fr. soldier to whom is generally given the credit for making the decision to stand against the Gers at the battle of

a struggle in occupying Timbuctoo—experiences which are the subject of his book, *My March to Timbuctoo* (1915). His comparatively slight experience of actual warfare was not supplemented by any very adequate training in the theory of war and when he reached the Higher Command he had to apply himself to the study of an art which Loch, Pétain and others had been teaching for many years. Indeed the name of J was scarcely known to the Fr. people before the First World War and his rise in the military profession had been a matter of purely administrative success. Yet in character and common sense J was a great soldier. His conception of the plan to turn the Ger right flank and to so do at the moment chosen, saved Paris and with the salvation of Paris the morale of the Fr. people remained unimpaired at the one moment in the war when its impairment might have been irreparable. Joffre was a steadying influence in the early days of the war, before the world had adjusted its outlook to the altered conditions. He was one of the few soldiers to foresee the course of the war; others like the Ger leaders looked forward to a short decisive encounter. J early said: "It is no longer the General in Chief who will win the battle it will be the colonels and even the humble captains. Battles will be engaged over fronts of from 250 to 500 m in length and over such an extent the will of a single man can scarcely get a grip. Combinations and tactics are scarcely possible nowadays. The troops which will win will be those which hold out longest, which have the greatest power of endurance, the most energy and the strongest faith in the final success." Writers dispute the precise part played by the different Fr. commanders in the strategy adopted on the eve of the Marne battle. Some give the entire credit to J, asserting that Gallieni (qv) strongly advised an attack on von Klück's exposed flank by Maunoury's army alone; others—the majority—give the major share in conception to Gallieni, and attribute the rest to the legendary reputation of J. But there seems to be no doubt that the planning of the battle was the work of J. He risked all, after securing the co-operation of Gen. Sir John French on a single throw, and by hardiness and sagacity won the day. After the Marne battle, however, when the Ger resistance stiffened, rival generals conducted a campaign against J and the champions of Gallieni and of Sarraïl (qv) charged J with rejecting all superior authority and organising a military junta at Chantilly. Indeed J never seems to have inspired the supreme confidence of Gallieni, for when Gallieni in 1915 became minister of war, he cast some implied aspersions on J's conduct of the war by demanding information on the Verdun defences J tendered his resignation (Oct 1915), but the Fr. Gov retained its confidence in him. The vendetta against him, however, continued, and indeed the annals of the Fr. army are full of such incidents which may be regarded as symptomatic of the restlessness of the Fr.



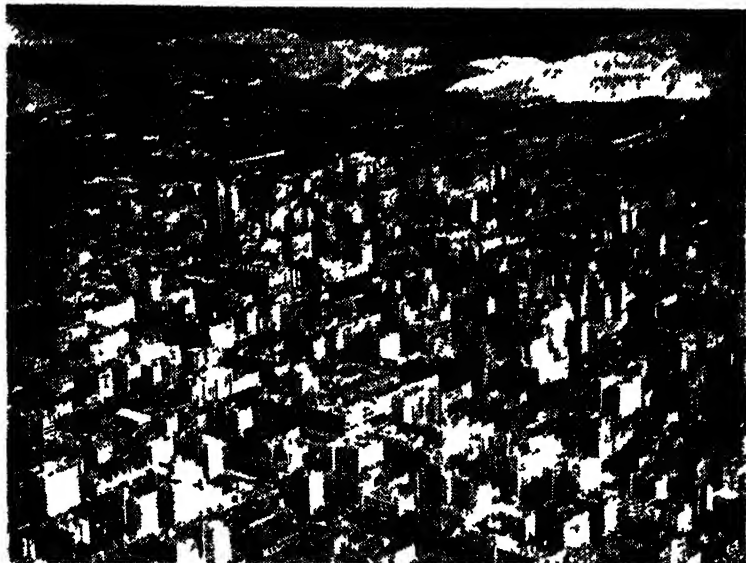
MARSHAL JOFFRE

the Marne in Sept 1914. He was b at Rivesaltes, Jan 1, third son of a family of eleven children the father being a cooper in a fair way of business. Educated at the Collège of Perpignan and the École Polytechnique, he joined the army as a second-lieutenant during the Franco-Prussian War in 1871. He saw service in various colonial expeditions, among which were the Chinese expedition of 1884, when he was in charge of the fortified defences in Formosa, while in 1894 he was sent to the rescue of the Bonnier column, which was subsequently massacred by the Tuaregs, and succeeded, after

national character. Finally on Dec 13, 1916 a decree conferred on J the title of technical adviser to the gov in matters appertaining to the direction of the war with retention of the title 'commander in chief' but the command of the 1st front was to be given to Gen Nivelle. The 1st Senate were opposed to this arrangement and after Briand had appointed Gen Lyautey, war minister, Joffre's two offices were suppressed, and on Dec 26 he was created Marshal of France, the first to receive the revived honour which had

Johanna, or Anjouan, one of the Comoro Is, in the Mozambique Channel. It is the central one of the group and is 26 m long and 19 m wide. In the N stands Johanna, a walked to and the residence of the sultan of the is.

Johannesburg, city in the Transvaal Prov of the Union of S Africa, situated on the high veld, 5710 ft above sea level, 14 429 m by road from Durban and 911 m from Cape Town. J is the centre of the great gold mining industry of the Wit water-rand and the most important



JOHANNESBURG AN AIR VIEW OF THE CENTRAL AREA

been abolished after the fall of the Second Empire. In 1918 J was made a member of the Académie Française. A student of J lands outside in hotel in Cl. Italy where he had made his staff heady after early in the war. It should be noted that it was J who in Aug 1911 appointed Loch to the command of part of Germany and Weygand (then a young colonel) as chief of staff to J. J. J. was twice married and had two daughters. J was a great-hearted man and leader and his whole life was marked by great simplicity and hard work. See J. W. Halsey, *Battle of Britain and Joffe 1917*. In *Goethe, Les Trois Mousquetaires*, Joffe, Pétain 1920.

Joggs, see JOGGA

Jogjakarta, or Jogjokarta, see JOGJAKARTA

business, cultural and financial centre in S Africa. It has one of the finest climates in the world with summer rains on an average of 36 days a year and cold dry days with brilliant sunshine throughout the winter months. The average annual rainfall is 34 in, the average mean maximum temperature is 72 in Jan and 60 in July and the average mean minimum 50.2 in July and 56 in Jan. Extremes of hot and cold are rarely experienced, although a sudden drop in temperature often occurs when there is a summer thunderstorm. J was founded in 1886 on the farm Indjeslaagte on the ridge known as the Witwater-rand (1) when the main reef of gold-bearing conglomerates was discovered by George Harrison. The small mining camp was probably named after Johannes Meyer the Mining

Commissioner of that time. Its early hist. was one of rapid development and of political and civil strife. The political disabilities of the new pop., known as Uitlanders (foreigners) which had looked to the rich goldfields led in 1895 to the Jameson Raid and to the Anglo-Boer war of 1899-1902. On the outbreak of war in Oct. 1899 most of the Uitlanders left the tn. and business and mining came to a standstill. In May, 1900, Brit. troops under Lord Roberts entered J. and by the end of the war the tn. and mines were functioning normally. From bare veld in 1835, a tn. of 10,331 European inhab. had sprung up by 1890 and the European pop., increased to 83,363 in 1904, to 150,286 in 1921, 252,579 in 1938 and 336,292 in 1948. The total pop. in 1948 was 778,144, made up of 336,292 Europeans, 400,050 natives, 25,600 Europeans, and 16,202 Asiatics. The area of J. is 57,007 ac. or 89.07 sq. m.

Local gov. in 1886 was exercised by a mining commissioner assisted by a Diggers' Committee elected by the gold-seekers. In 1887 a Sanitary Board was estab. and in 1896 Johannesburg became a tn. governed by a Stadsraad (Tn. Council). In 1900 the duties of the Stadsraad passed to the military governor and in 1901 a nominated council became responsible for local affairs; this was replaced by an elected council of thirty in Dec., 1903, and since that time local gov. has been modelled on the Eng. system. A Transvaal Prov. Ordinance of 1928 transformed the tn. of J. into a city. Today (1949) local gov. is in the hands of a City Council of forty-two members. The City Council owns and operates two power stations, a gas works, an abattoir and livestock mkt., a produce mkt., fine sewage disposal works, and a transport system of trams, motor buses and trolley buses. There is a plentiful water supply obtained from the Rand Water Board and distributed by the City Engineer's Dept. The City Council has 245 parks and open spaces, with a total area of 6,314 ac. There are twelve municipal open-air swimming baths, a fine zoological garden and a municipal golf course. The council owns the Ellis Park Rugby and Cricket grounds where international games are played. Public health and social welfare work is highly developed. In 1948 the council owned 2112 sub-economic houses for Europeans and Europeans and in its sub-economic townships and hostels housed a pop. of 111,860 native Africans. The rateable value of the city at June 30, 1948, was £210,678,482 and the loan debt £27,451,619. The City Council's assets were valued at £65,145,894.

The J. Public Library is a municipal institution, with a fine central library including special collections on science and technology, fine arts and Africana, a municipal reference library, an Africana Museum, and a municipal theatre. The city also maintains branch libraries for Europeans and non-Europeans, mobile libraries, school libraries, hospital and prison libraries. The Municipal Art Gallery, designed by Sir Edwin Luytens, con-

tains a fine collection of nineteenth century and modern art, the original stock having been selected by Sir Hugh Lane. The city orchestra is subsidised by the council and in 1948-49 received approximately £50,000 from city funds. There were 221 churches and church halls in J. in 1946. St. Mary's Cathedral, designed by Sir Herbert Baker and Mr. F. L. H. Fleming is a fine building not yet completed. The Dutch Reformed Church is a modern building and the Catholic pro-Cathedral is to be rebuilt. J. is an important educational centre. The Univ. of the Witwatersrand has faculties of arts, science, medicine, engineering, commerce, law, dentistry and architecture. It includes the Bernard Price Institute of Geophysical Research, a speech and hearing clinic and a good library. The Witwatersrand Technical College provides vocational and other classes for young people and adults, and controls an art school, a trades school and a business college. The J. Teachers' Training College is a Prov. institution. The majority of primary and high schools are run by the Transvaal Prov., although there are sev. important private schools, notably St. John's College and Marist Brothers' College for boys, and Roedeaan, Kingsmead and sev. convent schools for girls.

See A. Macmillan, *The Golden City of Johannesburg*, 2nd ed., 1933; J. Gray, *Payable Gold*, 1937; J. Mand, *City Government, the Johannesburg Experiment*, 1938; Ethel L. and J. Gray, *A History of the Discovery of the Witwatersrand Gold Fields*, 1940; H. A. Chilvers, *Out of the Crucible* (2nd ed.), 1948.

Johannes Sootus, see ERIGENA.
Johanngeorgensadt, tn. of Saxony, Germany. It is situated about 15 m. N.N.W. of Carlsbad, and possesses iron and blismuth mines. Pop. 7200.

Johannisberg, vil. of the Rheingau, Germany, near the R. Rhine. It is famous on account of its castle and vineyards, the products of the latter being used to make the well-known Johannisberger wines. Pop. 1400.

John, Saint, the Apostle, was the son of Zebedee, and the brother of James. The narrative of the call of James and John, who with St. Peter form the inner circle of the apostolic band, is contained in all three synoptic gospels. St. J. is also generally identified (1) with the companion of St. Andrew mentioned in the Fourth Gospel who, from being a disciple of John the Baptist, became a follower of Jesus; (2) with the 'other disciple,' spoken of also as 'the disciple whom Jesus loved,' mentioned in the Fourth Gospel. St. J. took part in many incidents mentioned in the synoptic gospels, but three stand out prominently as throwing light on his character, viz. the request of the brothers (Mark x. 35-41), the rebuke given to the man casting out devils in the name of Jesus (Mark ix. 38), and the request that fire should be called down from heaven to destroy the Samaritan vil. (Luke ix. 54). St. J. appears in the early chapters of the Acts, chiefly as the companion of St. Peter, while he is spoken of in Gal. ii. 9 as one of

the pillars of the church at Jerusalem. Tradition from the time of Irenaeus (c. 175) asserts that he survived the ordeal of martyrdom under Domitian and died of old age.

John, Epistles of, three canonical epistles of which the authorship is generally ascribed to the Apostle John. It is necessary, however, to consider the First Epistle apart from the Second and Third. The great majority of critics, including Elchhorn, Credner, Lucke, Ewald, and Huther, are agreed that the writer of the Fourth Gospel was also the writer of the First Epistle (see JOHN, THE GOSPEL ACCORDING TO), and the most modern critical works support this view. It is further probable that the Epistle was written after the Gospel. The aim of the Epistle is primarily to build up the writer's 'children' in the true Christian life, but to do this he has to be polemical to some extent. There has been much discussion as to what enemies his words are directed against, but they may be classed generally as Gnostics, whose errors of life and conduct were as serious dangers to the flock as were their heretical doctrines. It is an ancient tradition that the Epistle was directed partially against Cerinthus. The language of all the Epistles shows clearly that they are not 'general,' but are addressed to a particular church or group of churches whose members were well known to the writer. This is particularly so in the case of the First Epistle. The question of the authorship of the two later Epistles is more difficult. Their authenticity was much disputed before the formation of the canon and there is no agreement as to their author. Eusebius and Jerome ascribe them to John the Presbyter. It is now generally agreed that the 'lady' to whom the Second Epistle is addressed stands for the Church itself. See commentaries by A. Plummer, 1881; B. Westcott, 1883; G. H. MacGregor, 1928. See also Brooke's 'Johannine Epistles' in the *International Critical Commentary*, 1912, and J. Carpenter, *The Johannine Writings*, 1927.

John, the Gospel According to, now more usually termed the Fourth Gospel, stands in striking contrast to the other three gospels which precede it, and which are termed the synoptic gospels. The contrast is struck in the opening passage of the Fourth Gospel. The synoptists, except St. Mark, commence with elaborate genealogies which trace the earthly ancestry of the Messiah. St. Mark commences immediately with the profuse to Christ's ministry. It has often been remarked, though, how St. John's Gospel begins with the same words as the Book of Genesis—'In the beginning.' Thus his Gospel opens with an elaborate philosophical and metaphysical statement as to the eternal life of the incarnate Word. The contrast is not lessened as one proceeds. Everywhere the abstract takes precedence of the concrete. The tone of the Fourth Gospel is throughout rather that of a dogmatic treatise than a biographical sketch. It is taken for

granted that the hearers are acquainted with the characters introduced. This is especially the case in connection with John the Baptist. Therefore, the most vital points in the actual hist. of Jesus are here omitted; perhaps the most striking omissions being the Baptism and the institution of the Eucharist, though as regards the latter John gives our Lord's promise of the Eucharist at great length in a most moving passage. Finally, it may be said that St. John's Gospel is concerned primarily with the spiritual and the eternal. The earthly life of Christ is considered not as an isolated event but in its connection with His life as God and with the whole of human experience. The incidents narrated are chosen solely for the doctrines that can be drawn from them, and Christ's words are not given as spoken, but as matured and interpreted in the mind of the writer. The question of the authorship of St. John's Gospel was a problem of the early Church, and it has also been a most important critical problem during the last century. Modern criticism now shows a tendency to return to the traditional view and ascribe it to St. John the Apostle, or possibly to John the Presbyter spoken of by Papias. The extreme anti-traditional view of the Tübingen school made the author a Gentile Christian, and placed the work in the middle of the second century: Baur suggests A.D. 160-170, Pfleiderer A.D. 140, Keim A.D. 130. Dr. Harnack, however, in his *Chronology of Early Christian Literature* places it between A.D. 80 and A.D. 110. According to this chronology, the date presents no obstacle to the authorship by St. John the Apostle, and much internal evidence is adduced in support of the traditional view that it was written by him in his old age. The traditional view well explains the peculiar characteristics of the Gospel, and the conditions under which he would have written are thus excellently expressed by Dr. Armitage Robinson: 'The old disciple needs no documents to compile as others might compile a laboured history. The whole is present in his memory, shaped by years of reflection, illuminated by the experience of a lifetime. The supposed statement of Papias that John suffered martyrdom from the Jews is not a serious objection to this view, for its authenticity is discredited by its late appearance, by the great body of tradition, and by the opinion of such critics as Zahn, Lightfoot, and Harnack. See B. Westcott *Gospel of St. John*, 1882; J. A. Robinson, *Study of the Gospels*, 1906; F. C. Burkitt, *Gospel History and its Transmission*, 1906; J. Donovan, *The Authorship of St. John's Gospel*, 1936; F. R. Hoase, *The Original Order and Chapters of St. John's Gospel*, 1944; A. O. Headlam, *The Fourth Gospel as History*, 1948; also works by A. Plummer (1882), M. F. Sadler (1883), J. Lagrange (1925), G. H. MacGregor, 1928; J. O. Murray, 1936; and P. Gardner-Smith, 1938.

John, St., of Nepomuk (c. 1330-93), patron saint of Bohemia, a native of Nepomuk, or Pomuk, near Pilsen.

• Educated at the univ. of Prague, he soon entered the church, and after a time became confessor to Sophia, the wife of Wenceslaus IV. When he refused to divulge to her husband some secret he had heard from the queen in the confessional, he was tortured and finally flung into the Moldau. His canonisation dates from 1729.

John, the name of twenty-two popes:

John I. (623-26), a native of Tuscan, succeeded Hormisdas and was a friend of Boethius. Sent to Constantinople by Theodoric to obtain toleration for Arians, but on his return was imprisoned by the king who was dissatisfied with the mission. He died in captivity.

John II. (*Mercurius*) (532-35), a native of Rome and succeeded Boniface II.

John III. (560-73), native of Rome, successor to Pelagius I. The Lombards ravaged Italy during his time.

John IV. (640-42), native of Dalmatia, succeeded Severinus. Noted for his zeal and orthodoxy, and condemned the Monothelite doctrine.

John V. (685-86), native of Antioch, successor to Benedict II. The first of several popes of E. birth.

John VI. (701-05), of Gk. birth, succeeded Sergius I. Appealed to in the conflict between St. Wilfrid of York and the see of Canterbury, decided in favour of the former.

John VII. (705-07), native of Grecco, successor to the foregoing.

John VIII. (782-82), native of Rome, succeeded Adrian II. Saracens ravaged Rome during his pontificate. He supported Charles the Bold's claim to the empire, and crowned him in 875. See A. F. De Montor, *Histoire des souverains pontifes*, 1849; F. Dvornik, *Les Slaves, Byzance et Rome du IXe siècle*, 1926.

John IX. (898-900), Benedictine, succeeded Theodore II. He accomplished little, and his position was very insecure.

John X. (914-28), native of Romagna, succeeded Lando. Placed himself at the head of an army and drove Saracens from Italy. Said to have been murdered.

John XI. (931-36), elected while under age, and governed through influence of his mother, Marozia.

John XII. (*Ottavian*) (955-64), succeeded Agapetus II. Crowned Otto I., Emperor of Germany and King of Italy.

John XIII. (965-72), native of Rome, crowned Otto II. as emperor.

John XIV. (983-84), a native of Pavia, succeeded Benedict VII. Deposed by the antipope, Boniface VIII., thrown into prison and said to have been poisoned.

John XV. (984) elected successor to John XIV., but died before his consecration.

John XVI. (986), native of Rome, set up by Crescentius, a patrician. Overthrown by the emperor and treated with cruelty.

John XVII., pope for a few months in 1003.

John XVIII. (1003-09), when he resigned his office and entered a monastery.

John XIX. (1024-33), native of Rome, succeeded Benedict VIII.

John XX. (1276-77), native of Spain, and a man of great learning, often called John XXI.

John XXI., see **John XX.**

John XXII. (1316-34), native of Cahors, France, b. at Cahors in 1249. His name was Jacques Duèze or Deuze. Endeavoured to propagate Christianity in distant lands. Important in Ger. hist. as taking active part in disputes of emperors Louis of Bavaria and Frederick of Austria.

John XXIII. (1410-15) succeeded Alexander V., and his title was disputed by Popes Benedict XIII. and Gregory II. A man of depraved morals, and committed many heinous offences. Finally deposed.

John (1166-1216), King of England, probably b. at Oxford, was the youngest son of Henry II. and Eleanor of Aquitaine, nicknamed John Lackland. In 1185 he was sent as governor to Ireland, but was soon recalled on account of his insolence to the Irish chiefs. J.'s coalition with his brother Richard and Philip of France in 1189, under circumstances of peculiar treachery, was regarded as Henry II.'s death-blow. He was no truer to his brother; during Richard's absence in the Holy Land he attempted to usurp the crown and joined Philip of France to oppose Richard's release. In 1199 J. became king, and one of his first acts is supposed to have been the murder of Arthur, the son of his elder brother, Geoffrey. The death of his able mother in 1204 removed the last restraining influence on his crimes and follies, and within a year Philip of France had annexed, with hardly any opposition, Normandy, Angou, Maine, and Touraine. In 1205 began the great struggle between J. and the pope, Innocent III., over the election to the archbishopric of Canterbury, which led to the interdict of 1208, the deposition of 1211, and the excommunication of 1212. When the pope commanded Philip of France to invade England, J. submitted, agreed to hold his kingdom as a fief of the papacy, and to accept the pope's nominee, Stephen Langton, as archbishop. But his tyranny at home, coupled with the defeat of his forces at Bouvines (1214) by Philip, and the loss of Poitou stirred the barons to revolt, and, led by Stephen Langton, they forced the king to sign Magna Carta at Runnymede (June 15, 1215). But J. had no intention of keeping his promises, and induced the pope to annul the charter. The barons, as a last resort, appealed to Philip of France, and the Dauphin Louis had landed in England when J. suddenly died at Newark. He married (1) Avise of Gloucester, (2) Isabella of Angoulême. See W. Stubbs, *Constitutional History*, 1875; and *The Early Plantagenets*, 1876; and R. Pauli, *Geschichte von England*, 1858; K. Norzgate, *John Lackland*, 1904; J. H. Ramsay, *The Angevin Empire*, 1903; E. B. D'Auvergne, *John, King of England*, 1934.

John II. (1319-64), king of France, surnamed 'the Good,' succeeded his father, Philip VI., 1350. He roused righteous indignation by his arbitrary execution of Robert, Constable of France, and then by gulfish means entraped his son-in-law,

Charles of Navarre, cast him into prison in Chateau Gaillard, and put to death his associate in intrigue, the Count d'Harcourt. This had not a little to do with the invasion of France by Edward III. and the Black Prince. J. was taken prisoner at the battle of Poitiers in 1356, and eventually died in captivity, as his subjects were too reduced by devastations, famine, wars, and civil broils to pay the ransom.

John II., or **Hans** (1481-1513), king of Denmark (from 1481) and of Norway and Sweden (from 1482), was occupied with wars and rebellions throughout his reign. Failure attended his expedition against the Dilmarchers in S. Sleswig (1500). This disaster led to revolts in both Norway and Sweden, and though the former kingdom was pacified in 1508, the latter continued the struggle till within a year of John's death. Under Sten Sture, and later under Svante Sture, who had gained the support of the Hansa tns., the Swedes succeeded in throwing off the Danish yoke.

John, kings of Poland:

John I. (1492-1501), brave soldier but a poor statesman. An insurrection in Moldavia frustrated his projected crusade against the Turks.

John II. (*Casimir*). See under CASIMIR.

John III. (*Sobieski*) (1624-96), became commander-in-chief in 1668, having gained signal victories over the Cossacks and Tartars (or Tatars) in the Ukraine. Having been heavily bribed by Louis XIV to secure the election of Michael as king, he harassed the reign of the latter by continuous conspiracy, and drove him to sign a disgraceful peace with the Turks (1672). A splendid victory over the Ottoman too in 1673 secured him the Polish throne. By the treaty of Zaravno (1676) he recovered most of Ukraine from the ignobly vanquished Ottomans. In 1683 he drove them from Vienna and after a brilliant victory forced them to retire from Hungary.

John, kings of Portugal:

John I. (1357-1433), called 'the Great' and 'father of his country,' was the father of Henry the Navigator. He proved a wise ruler, though his reign was darkened by continuous strife with John I. of Castile.

John II. (1455-95), called 'the Perfect,' curbed the power of his haughty noblemen, and drew up the celebrated treaty of Tordesillas with Castile (1494).

John III. (1502-57), bid fair to wreck the prosperity of Lisbon and his realm at large by being too partial to the whims of the clerical party.

John IV. (1603-56), b. at Villa Vicosa, became king by popular consent after the rebellion of 1640 against Philip IV. of Spain. His reign was occupied with a long struggle with Spain, and at his death his country had not yet reasserted its independence.

John V. (1689-1750), allied himself with Austria in the war which closed with the treaty of Utrecht (1713), and afterwards became a tool in the hands of the Church party.

John VI. (1769-1826), was regent from

1799 until 1816, when he became king. He lived in Brazil, and when he returned home in 1822 he agreed to govern on constitutional lines.

John Augustus Edwin (b. 1879), Brit. painter; b. at Tenby, Wales. Attended Slade School, London; afterwards lived in Paris and Provence. His pictures were first exhibited at the New English Art Club. He taught art at Univ. College, Liverpool, 1901-02. At the Arts and Crafts Exhibition, Burlington House, 1916, J. exhibited his 'Peasant Industries'—now in the Tate Gallery; along with 'The Smiling Woman' (1910), 'Robin' (1917-1918), 'Rachel,' and the 'Galway' cartoon. He was official artist to the Canadian Corps in the First World War, and designed for it a memorial cartoon, 'Canadians opposite Lens.' By 1921 he was A.R.A.; by 1928, R.A. but resigned in 1938 on account of the Academy's rejection of a sculpture by Epstein. Re-elected R.A. 1940.

He painted portraits of the chief members of the Peace Conference; also of Bernard Shaw (*q.v.*) (1916), Lord Fisher (1918), Lord Sumner (1918), the Marchesa Casati (1918-19), and the Princess Bibesco (1921). It is as a portrait painter that he has achieved most fame, his skill in directly representing character and temperament with the brush leaving him without a rival among his contemporaries in this branch of the art. An admirable example is his portrait of Lord Fisher; while the 'Portrait of a Girl' and 'Vivian' (also a portrait of a young girl, but in the symmetrical rather than the angular style) emphasise his scorn of æsthetic theory as a substitute for the expression of temperament. His absolute sense of colour values is well exemplified in his landscapes of S. France and in paintings of flowers. His fine 'Les Marlières' has been compared with the work of Cézanne (*q.v.*), but the latter is the mere artist, J. the born painter. Elected president of the Royal Academy of Wales, 1934. Trustee of Tate Gallery, 1933-41; R. Soc. of Portrait Painters, 1938. O.M. 1942. See J. Rothenstein, *Augustus John*, 1944.

John of Austria (1515-78), soldier, the natural son of Emperor Charles V. He grew up a man of far-reaching ambitions, and the tragedy of his disappointed life may be traced to the petty jealousy of his half-brother Philip II. of Spain, who was always at pains to defeat these ambitions. Philip had designed that he should become a monk, but Don John chose a soldier's career, and gained signal honours, first against Algerian pirates, then against the Moors of Granada (1570), and finally at the decisive naval battle of Lepanto (1571), when he was admiral of the combined fleets of Venice and Spain. Foiled in his project of a kingship over Tunisia, Don John was finally appointed viceroy of the Netherlands (1578). Here he was powerless from lack of funds, men, or any support from Philip. His opponent was the redoubtable William the Silent. In 1577 he was forced to surrender and to recognise the 'Pacification of Ghent.' The following year, after a conspicuous

victory over the Dutch patriots, he died of fever and, it is said, a broken heart.

John the Baptist, Saint, son of Zacharias, a priest of the Temple, and his wife Elizabeth, a kinswoman of the Virgin, born to them in their old age, according to the promise of an angel (Luke i. 5) his birthplace is unknown, but it was a tn. in the hill country of Judah. The immediate forerunner of Christ, he was the last of the great prophets to preach repentance and the coming of the Messiah. He lived apart from the haunts of men, until, probably thirty years of age, he appeared in the wilderness of the lower Jordan as a preacher. Such as came to him confessing and penitent he baptised, his baptism being the sign and seal of inward cleansing, and the beginning of a new life (Josephus, *Antiquities of the Jews*, xviii. v. 2). Jesus also came to him for baptism, and on this occasion J. makes a clear confession and acknowledgement of his own inferiority. His preaching caused a great stir, and people from all parts of the country crowded to hear him. He did no miracle; but his form, his manner of life, his intrepid rebuke of wickedness in high places, recalled the most striking prophetic figures of O.T. times. His denunciation of Herod Antipas furnished the pretext for his imprisonment, while it incurred the deadly hatred of his partner in guilt; and in due course he was murdered in prison (Matt. xiv.). Josephus lays the scene of his murder in Machærus, the great fortress of the Dead Sea; but possibly Tiberias was the place of his death. Tradition says that his body was buried at Samaria, where the Crusaders built the church of St. J., now a Moslem mosque. The head is said to have been finally buried in Damascus. The life of St. J. the B., on which the gospel histories throw much light, has been the subject of much study during recent times. See especially A. Blakeston's, *John the Baptist and his Relation to Jesus*, 1912.

John of Bohemia (1296-1316), 'the Blind,' son of Emperor Henry VII. Also known as J. of Luxembourg. In 1310 he was crowned king of Bohemia. Some years later, when the royal houses of Bavaria and Austria were measuring lances for the imperial crown, J. secured the prize for the former by his victory at Mühldorf (1322). For two years (1333-35) he fought in Italy against the Ghibellines, and eventually met his death at Crécy, where he was supporting his father-in-law, the Fr. king. Blindness overtook him towards the end of his life.

John of Gaeta, see CELASIUS II.

John of Gaunt (1340-99), Duke of Lancaster, fourth son of Edward III., b. at Ghent in Flanders. In 1359 he married Blanche, heiress to the duchy of Lancaster, and was himself created duke of Lancaster in 1362. They had one son, who was later to become Henry IV. of England. His wife died in 1369, and three years' later J. of G. married Constance, daughter of Pedro the Cruel of Castile, and assumed the title of King of Castile in 1372. J.'s efforts to establish his claim against his rival, Henry of Trastamare,

proved unsuccessful, and in 1387 he renounced all claims in favour of his daughter Catherine. He was a very ambitious man and was greatly feared by the Commons and the young king Richard II. while he opposed the greater part of the clergy by supporting John Wycliffe. After his return from Spain in 1389, he succeeded in gaining the confidence of the king and tried to promote peace between him and the barons. In 1391 his wife, Constance, died, and he married his mistress, Catherine Swynford, his children by whom were legitimised in 1397. They were the Beauforts, and included the Cardinal of that name. See S. Armitage-Smith, *John of Gaunt*, 1905.

John, Sir William Goscombe (b. 1860), Brit. sculptor; b. at Cardiff; son of Thomas J. Educated at Llandaff. Studied in Cardiff School of Art; City and Guilds of London School of Art; R.A. Schools—gold medal and travelling fellowship, 1889. Gold medal, Paris Salon, 1901. Gold Medal at the Royal Society of Brit. Sculptors, 1912. Represented in many Eng. galleries. Works include statues of: Edward VII. (eques.), Capetown and Liverpool; Prince Christian Victor, Windsor; D. Lloyd George, Carnarvon; Viscount Wolseley (eques.), Horse Guards Parade—and Arthur Sullivan memorial, Embankment Gardens, near the Savoy.

John of Kronstadt, see KRONSTADT, FATHER JOHN OF.

John Bull, see BULL, JOHN.

John Chrysostom, St., see CHRYSOSTOM.

John Dory, see DORY.

John Lewis Partnership, The, was founded by a Settlement in Trust, 1929. It comprises (1949) some 20 dept. stores in various parts of the U.K., including the business of John Lewis and Company and Peter Jones of London, about forty specialist food and other shops, farms and production units, an overseas company and a S. African affiliate. After the usual provision for reserves and payment of a fixed rate of interest on borrowed capital (averaging less than 4½ per cent on the £12 million of issued share capital) the whole of the remaining profits are divided among all the workers in all the Partnership companies. See J. Spedan Lewis, *Partnership for All*, 1949.

John of Leyden, properly Johann Beuckels, or Borkhold (1509-36), a Dutch fanatic, was a tailor, who eventually settled down in Leyden as an innkeeper. A disciple of the Anabaptist, Matthias, he was sent on a mission to Münster (1533). His fiery oratory soon gathered together a goodly company of zealous converts, who became known as the 'saints.' This success led to a strange and almost unique episode. For a twelve-month J. became king of Münster, assumed the royal purple, married several wives, dispensed justice in the market-place, and put his enemies to death. In 1535 the bishop recovered the city, and after excruciating tortures J. was executed.

John of Salisbury (d. 1180), learned scholar, studied in Paris under Abelard (1136), and also attended Oxford and

certain It. univs. His claims to high scholarship rest on his knowledge of Gk. and Latin, natural philosophy, theology, mathematics, and Heb. For many years he was secretary to Becket, whom he staunchly supported in all his vicissitudes, and whose life (together with that of Anselm) he subsequently wrote. Henry II. employed him on several embassies and received from his hands the papal bull authorising his conquest of Ireland. In his *Polycraticus de nugis curialium et vestigiis philosophorum* J. mocks at the manners and vices of the great, while *Metalogicus* reveals him as a true scholastic philosopher.

John, Knights of St., see HOSPITALIERS KNIGHTS.

John o' Groat's House, 1½ m. W. of Duncansby Head in Caithness, Scotland. The expression is proverbially used for the most northerly point of Great Britain.

John's College, St., Cambridge, see ST. JOHN'S COLLEGE, CAMBRIDGE.

John's College, St., Oxford, see ST. JOHN'S COLLEGE, OXFORD.

John's, Eve of St., see ST. JOHN'S, EVE OF.

Johns Hopkins University, situated in Baltimore, Maryland, U.S.A., is one of the newest of the great univs. It owes its existence primarily to the munificence of Johns Hopkins (1795-1893), a rich merchant of Baltimore, who contributed 7 million dollars to found a university and hospital. This gift was made in 1867, and the univ. opened its doors in 1876. In 1902 Baltimore made a gift of a large tract of land outside the city, and here a fine group of buildings now house the various schools.

John Rylands Library, library founded by the widow of John Rylands (1801-88), cotton merchant of Wigan, who died intestate leaving his widow to succeed to a fortune of over £2,000,000. In 1888 the widow bought for £250,000 the splendid library of Earl Spencer of Althorp. To house the library she built in Deansgate, Manchester, the present Gothic building there. An endowment was also provided and the collection has since been extended by the addition of many other books and MSS. making it one of the finest libraries in England.

Johnson, Amy (1905-41), Eng. airwoman, daughter of John Wm. J. of Hull, where she was born, learnt flying in 1928. Became famous in 1930 for her flight from England to Australia in nineteen days, being the first woman to accomplish the flight alone. In 1931 she flew to Tokyo across Siberia and thence back to Britain and in the following year beat by 10½ hrs. the record set up by J. A. Mollison (whom she had married in that year) in flying to the Cape. In 1933, with her husband, she made a successful crossing of the Atlantic via Newfoundland but was obliged to make a forced landing when within 60 m. of New York. Perhaps her greatest achievement was in 1936, when she flew to the Cape and back and beat both the outward and homeward records, a feat which won her the gold medal of the Royal Aero Club. Her marriage was

dissolved in 1938, when she resumed her maiden name. In the Second World War she worked as a ferry pilot for the Air Transport Auxiliary and was killed when her aircraft dived into the sea during a flight over the Thames estuary on June 5, 1941.

Johnson, Andrew (1808-75), seventeenth president of the U.S.A., b. at Rattliff, N. Carolina, his father being a porter at an inn, his mother a maid there. Was apprenticed to a tailor. After six years of this he ran away to Tennessee. At nineteen years of age he married and his wife taught him to write. From 1830 to 1834 he was mayor of Greenville, Tennessee; for four years between 1835 and 1841 he sat in the state House of Representatives, and later in the state Senate. Next year he was elected to Congress, where he remained for ten years (1843-53), and finally to the national Senate (1857-62). From 1853 to 1857 he was governor of Tennessee. On the declaration of civil war, President Lincoln made him military governor of Tennessee. In 1864 he was nominated for the vice-presidency on the same ticket as Lincoln, and after Lincoln's assassination he became president (1865-69). But the adoption of his predecessor's lenient policy with regard to the rebellious S. states was misconstrued into deliberate disloyalty, and he was accordingly impeached. The trial ended in his acquittal. Later biographies have done much to reinstate his reputation. He retired into private life in 1869, was elected to the U.S.A. Senate again in 1875, but died three months later. See lives by D. De Witt, 1903; R. W. W. Winston, 1928.

Johnson, Eastman (1824-1906), Amer. artist, b. at Lovell, Maine; studied at Düsseldorf and in Italy, France, and Holland. Among his works are: 'The Old Kentucky Home' (1867), 'The Old Stage Coach' (1871), 'Cranberry Harvest' (1880), and many portraits.

Johnson, Francis (1793?-1876), Eng. Oriental scholar. Held the chair of Sanskrit, Bengali, and Telugu at Haileybury College (1824). A revised ed. of his monumental *Persian Dictionary* appeared in 1852. Sanskrit students are indebted to his *Hilopadesa*, 1840.

Johnson, Hewlett (b. 1874), Eng. ecclesiastic, educated at Macclesfield, Victoria Univ., and Wadham College, Oxford. Vicar of St. Margaret's, Altrincham, 1908. Dean of Manchester from 1924 to 1931; and of Canterbury from 1931. Wrote *The Socialist Sixth of the World* (1940, now in its 22nd ed. and trs. into twenty-four languages, entitled in America, *The Soviet Power*). He wrote a sequel on the same theme, *Soviet Success* (1947).

Johnson, John Arthur ('Jack') (1878-1946). Amer. negro heavy-weight prize fighter, b. at Galveston, Texas. At twenty-two he was a milk-roundsman in Galveston; at twenty-three he was winning money in the ring and in his first eight years of prize fighting he was beaten only twice. He first became known in 1907 by beating Robert Fitzsimmons in

two rounds at Philadelphia. The following year he became the first coloured heavyweight champion of the world by beating French-Canadian Tommy Burns at Sydney. His most famous fight, however, was in 1910 when, at Reno, he defeated Jim Jeffries; for feeling had run high in America over the match and the defeat of the 'white man's hope,' as Jeffries had been called, caused much dissatisfaction. After J. had performed in the music-halls in the States and in this country, an attempt was made to arrange a match with Bombardier Wells in England in 1911, but the Home Secretary would not allow it to take place. Soon afterwards the suicide of J.'s white wife (Etta Duryea, whom he had married in 1909), revealed the acuteness of the race question in America. On April 3 1915, J. lost to Jess Willard at Havana but was only knocked out after twenty-six battering rounds. In all, his major fights numbered 109 in twenty-nine years in the ring. But the £100,000 he is said to have made was soon dissipated in the purchase of a luxurious restaurant in Chicago and of an expensive house in an exclusive suburb of New York. He wrestled in Paris, appeared in the bull-ring in Spain, his head bald and his great figure paunched, and once he played the part of a general in the opera *Aida* in New York. He pub. *Mes Combats* in 1914. He died in hospital at Raleigh, North Carolina, two hrs. after his car crashed into a telegraph pole.

Johnson, Lionel (1867-1902), Eng. man of letters, was a journalist in London. His best piece of literary criticism is to be found in his *Art of Thomas Hardy* (1894), and he also pub. two vols. of original poems (1897 and 1899). See A. Waugh, *Tradition and Change*, 1919; Katherine Tynan, *Memories*, 1921; B. Evans, *English Poetry in the Later Nineteenth Century*, 1933.

Johnson, Richard (1573-c. 1659), romance writer, was baptised in London. Bishop Hall speaks of the remarkable popularity of J.'s *Famous Historie of the Seaven Champions of Christendom*, 1596 (f).

Johnson, Richard Mentor (1781-1850), ninth vice-president of the U.S.A., was admitted to the Bar in 1800, and sat in Congress from 1807 to 1819, and was for many years a member of the Senate. In 1837 the Democratic party nominated him and the Senate elected him to the vice-presidency, which he retained till 1841. His chief claim to fame rests on his part in the war of 1812 with England. In command of cavalry from Kentucky, he helped to clear Michigan of the invading Eng. troops. In the victory of Thames, J. killed the famous chief Tecumseh, who led the Indians who favoured the Eng. cause.

Johnson, Robert Underwood (1853-1937), Amer. poet and editor, b. at Washington, D.C. Associate editor of *Century Magazine* from 1881-1909, editor from 1909-13, Amer. Ambas. at Rome, 1920-1921. Among his poems are: *The Winter Hour* (1891), *Songs of Liberty* (1897), *The Pact of Honor and other Poems*, *Grave or Gay* (1930), *Poems of Fifty*

Years (1931), *Aftermath* (Poems, 1933) Ed. *Rattles and Leaders of the Civil War* (1887-88).

Johnson, Samuel (1709-81), Eng. lexicographer, critic, and author, the son of a Lichfield bookseller. A precocious boy, he was from early days a great reader, and a customer of his father, struck by the lad's talents, sent J. in 1727 to Pembroke College, Oxford, where he distinguished himself by his classical erudition. After acting as an usher at Market Bosworth Grammar School, he married, in 1735, the widow (d. 1752) of Henry Porter, a Birmingham mercer, and settling at Edial, took private pupils, amongst whom was David Garrick. In 1737 he went up to London with Garrick, determined to earn a livelihood by his pen. He soon became a regular contributor to the *Gentleman's Magazine*, and for some time prepared the



SAMUEL JOHNSON

parl. reports which appeared in that periodical. He did much hack-work for Cave, the publisher of the magazine; but it was Doddsley who pub. *London* (1738), for the copyright of which the author received £10. Six years later he wrote a biography of his friend Richard Savage, with whom he had sometimes roamed the streets at night for want of the price of a lodging. In 1747 he issued the plan of his *Dictionary*, upon which, with the help of six amanuenses, he laboured for eight years. He pub. the best of his poems, *The Vanity of Human Wishes*, in 1749; and in the same year Garrick produced *Irene* at Drury Lane Theatre, where it ran for nine nights. J. in 1750 conceived the idea of a paper on the lines of the *Spectator*, which he called the *Rambler*, issued twice a week from March 20. It brought him a wider fame than any of his earlier

writings. In 1751 Chesterfield, to whom the plan of the *Dictionary* had been inscribed long ago, now repented himself of his continued neglect of its compiler, and in the *World* wrote two papers commending the work; whereupon J., whose pride had been outraged, replied in the famous oft-quoted letter (Feb. 7, 1755), in which he said that the notice, 'had it been early, had been kind,' and added, 'but it has been delayed till I am indifferent and cannot enjoy it; till I am solitary, and cannot impart it; till I am known and do not want it.' The quiet severe dignity of this inimitable letter alone would have made its author famous. J.'s mother died in 1759, and to pay the expenses of her illness and funeral he wrote *Rasselas*, the most popular of all his works. Three years later his financial troubles came to an end with the grant by Bute of a Civil List pension of £300 a year. In 1765 he brought out his long-promised *Shakespeare*, and between 1779 and 1781 pub. *The Lives of the English Poets*. J. had acquired a position in literary and artistic circles that has rewarded the efforts of no other man. He was the acknowledged dictator of 'The Club,' founded in 1765 by himself and Sir Joshua Reynolds, and numbering among its limited membership, Burke, Johnson, Beaumont, Langton, Hawkins, Boswell, Garrick, Gibbon, Fox, Sheridan, and Adam Smith. There he laid down the law to all and sundry in that witty, truculent style of conversation which Boswell has made familiar. Among his private friends were the Thrales and the Burneys, and with these he made excursions to different parts of England, a fascinating companion, if not always a pleasant guest. After Thrale's death, he quarrelled with the widow, who decided to marry Ptozli. As a writer he had a ponderous style, which was often burlesque, and was best described by Goldsmith, who said that the Doctor would make little fishes talk like big whales. He was didactic to an extraordinary degree, and he inculcated moral sentiments with gusto in season and out of season in *Rasselas* as in *The Rambler*. A man markedly disposed to belief in superstitions, he had notwithstanding very deep religious faith, as can be clearly seen in the posthumous *Prayers and Meditations* (1785). He had great courage, and a tender regard for humanity that was evinced in the kindness for and the generosity he displayed towards the unhappy, the poor, and the weak. J. is the most familiar figure of the eighteenth century, and if in the first place he owes this to his remarkable personality, in the second he is indebted for it to Boswell, who, in his biography, the masterpiece of biographies, has painted him to the life. The best ed. of Boswell's work is that brought out by Dr. Birkbeck Hill (6 vols., 1887). See S. O. Roberts, *The Story of Dr. Johnson: being an Introduction to Boswell's Life*, 1922; J. Bailey, *Dr. Johnson and his Circle*, 1927; R. Lynd, *Dr. Johnson and Company*, 1927; M. C. Struble, *A Johnson Handbook*, 1933; W. B. Watkins, *Johnson and English*

Poetry before 1660, 1936; Sir A. McNair, *Dr. Johnson and the Law*, 1948; J. W. Krutch, *Samuel Johnson*, 1948.

Johnson, William Eugene (1862-1945), Amer. temperance advocate, known as 'Pussyfoot'; Johnson; b. at Coventry, New York State. Student at Nebraska State Univ. Joined staff of *Lincoln Daily News* and wrote articles on the temperance cause, which had a wide circulation in the smaller newspapers throughout the United States. In 1895 he became associate editor of the *Voice* in New York, which was the organ of the cause. In 1905 he went to Washington to work among members of Congress for the legislation which temperance reformers wished to see enacted. The Federal gov. was, however, powerless over the liquor traffic in the various States, but there were some spheres in which it could make its influence felt, and President Theodore Roosevelt appointed J. Federal agent to enforce the law, especially in Oklahoma. By his swift and noiseless methods—whence his sobriquet of 'Pussyfoot'—he secured thousands of convictions against bootleggers within a very short space of time. In 1911 he retired to devote himself to the cause of prohibition, which was then rapidly becoming a political issue throughout the States. When victory was assured in America, he set out to convert other countries, including Sweden, China, India, Russia, and Italy. He came to London in 1919, but while preparing to address a meeting in Essex Hall, he was 'ragged' by students from King's College, in the course of which a missile was thrown at him which caused the loss of his right eye—but it is commonly assumed that the missile was not thrown by a student. J. travelled round the world three times, delivering thousands of lectures and impressing people more by his kindly manner than by the merits of his cause.

Johnson City, tn., Washington co., Tennessee, U.S.A. It manufactures silk and velvet and has iron foundries. Pop. 25,000.

Johnston, Albert Sidney (1803-62), Amer. general, b. in Kentucky, graduated at W. Point. In the Army he rapidly rose to the command of the forces of Texas and successfully banished the Indian marauders from the N. of that state. After serving in the Mexican war, he was appointed paymaster to the United States Army (1819), and in 1838 quelled the Mormon revolt without bloodshed. On the outbreak of Civil war, he joined the Confederates, but was mortally wounded at Shiloh (1862). President Davis pronounced his loss irreparable. This battle came near to being the graveyard of all Gen. U. S. Grant's hopes for fame. J. completely surprised him and the first day's fighting favoured the Confederates. But J. was hit in the thigh by a cannon ball. Had he submitted to surgical treatment, his life might have been saved; but he dismounted in the midst of his men and died fighting. The next day the reinforced Union troops won the contest.

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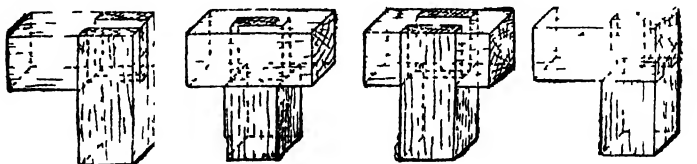
blocks are short pieces of wood glued into the angles of joints to strengthen them. Other fastenings for joints include cleats, joint bolts, wedges, pins, nails, and screws.

Beadings are extensively used at the joints of boarding, in order to hide any opening of the joint caused by shrinkage. They are curved in section, and of convex shape. A beading is stuck when it is formed from the material of the board, but laid in when it is a separate piece fastened to the board.

Mouldings are often used to ornament the arrises of joiner's work; in Gk. mouldings elliptical and parabolic curves are chiefly found, whilst in Rom. mouldings the curves are segments of circles. Different types of mouldings are known as Totus, Cavetto, Ovolo, Scotia, Cyma Recta or Ogee, Cyma Reversa or Reverse

ways folding doors are used; for improving the appearance of a wide, low doorway, a double margin door, which is a single door made to imitate folding doors, is often used. Doors which have the upper panels of glass are known as sash doors, and are used as the outer doors of shops, vestibule doors, etc. Outer doors are generally hung to solid wooden frames, consisting of two uprights called jambs and a cross-piece or head. When the doorway is higher than the door, a cross-rail called a transom is placed across at the height of the top of the door, whilst above this is a window called a fanlight. For hanging doors, tee, spring, butt, and hook and eye hinges are used.

Windows are usually made in two parts, the frame and the sashes although in some warehouses, etc., the frames holding the glass are fixed as fast sheets. The sashes



ANGLE BRIDLE

MORTISE AND TENON

BRIDLE

HAUNCHED M. & T.

Ogee, etc. *Doors* may be divided into three classes: Ledged, framed and ledged, and framed and panelled. The first class is used for the doors of outbuildings, etc. Such doors are made of vertical battens about 5½ in. wide, butted against one another and securely nailed to horizontal cross ledges. To prevent the tendency to droop at the outer edge, sloping braces are often inserted between the ledges, each brace sloping upwards from the hinged edge. The door is then called a ledged and braced door. Framed doors are formed by constructing frames of wood, between which battens or panels are fitted. The outer vertical members of the frame are called styles; the horizontal cross-pieces, which are known as rails, have different names according to their positions in the door, e.g. top rail, lock rail, bottom rail, and, in panelled doors, frieze rail. Braces are used only in framed and ledged doors. Muntins are the vertical members which separate the panels of a door. The framing, in the case of framed and ledged doors, is put together, wedged up, and finished before the battens are nailed on. The panels, which are about one-third the thickness of the door, fit into grooves in the middle of the framing, into which they are inserted as the latter is put together. The simplest style of panelled door, when the door framing is left square and the panels are plain, is known as square and flat; other styles are: stop-chamfered, single moulding, and bevelled moulding, each with many varieties. For wide door-

are of two kinds, casement sashes, when they open in a similar manner to doors and are hung to solid rebated frames, and hung sashes, which slide vertically alongside each other and are balanced by weights. The parts of the frame form a box on each side in which the weights are suspended; the outer groove is always occupied by the upper sash. The outer uprights and main cross-pieces of sashes are called styles and rails respectively, as with doors; any intermediate vertical or horizontal members are called bars. Bay windows is the name given to windows which project beyond the face of the wall. Dormer windows are windows constructed in the sloping surfaces of roofs, distinguished from skylights by standing vertically, whilst the latter lie in a surface parallel to the plane of the roof. Window shutters may consist either of hinged leaves fitting into boxes at each side of the window, or of two parts sliding vertically past each other and balanced by weights.

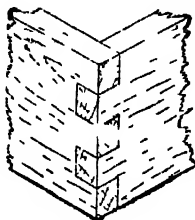
Stairs form an assemblage of steps for passage from one floor to another, and are contained in a staircase. Wooden stairs consist of horizontal treads supported by vertical risers under their front edges; string boards support the ends of both treads and risers. String boards may be either close or cut, the former has its long edges parallel to each other, the lowest portion being termed an apron, whilst the latter has its upper edge out to the line of the treads and risers. The string which is adjacent to the wall is generally a close string, the outer string being either cut

and mitred or cut and bracketed. A wreathed string is the name given to the outer curved string of a geometrical stair. When the different flights of a stair are not in the same line, the change of direction is obtained either by winders or landings. The latter are constructed as small floors, and called quarter-space or half-space landings according to the angle between the flights; winders are steps, the treads of which taper in plan and allow the person using them to turn to the right or left. The prin. types of stairs are straight flight, with or without landings, stairs with winders, dog-legged, open navel, and geometrical stairs. Handrails form the capping piece of the balustrading, upon which the hand rests in ascending or descending the stairs; they are usually rounded and fixed about $2\frac{1}{2}$ ft.

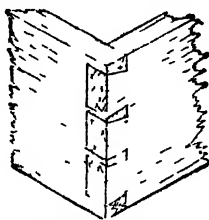
J. A. is also used in Scots law with the same meaning.

Joint Fir, term applied popularly to any species of Gnetaceae, an order consisting of small trees or shrubs closely allied to members of the Coniferae.

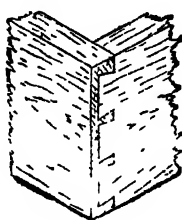
Joints. Study of anatomical J. is technically termed arthrology and includes an examination of the connections between any two or more parts of the skeleton. It is usual to divide J. into two classes, viz. *immovable* and *movable*, and the latter again into *perfect* and *imperfect*. Examples of the immovable (synarthroses) are those formed where an ossification takes place, as in a membrane, e.g. a suture of the skull. A special form of immovable junction is shown in the gomphoses or peg and socket J.s. of the fangs of teeth into tooth sockets of the jaw



BOX JOINT



COMMON DOVETAILED



LAP DOVETAILED

above the line of nosing (the imaginary line passing down the nosings, or rounded front edges, of the treads in a stair).

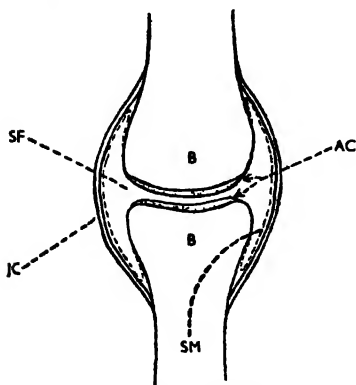
Architraves are fixed around the inside of door and window openings to give a finished appearance to the whole; they are called band-moulds or single architraves, or double-faced architraves.

Skirting-boards are placed at the bottom of the walls of a room for ornamental purposes; they may be plain or moulded. Both architraves and skirting-boards are generally secured by wooden battens called grounds, the backs of which are grooved, rebated, or splayed, and fixed by means of plugs, wood pallets, or joints to the wall. For the construction of floors, roofs, etc., see CARPENTRY. See also PANELING; PLYWOOD; VENERING. See J. W. Riley, *Carpentry and Joinery*, 1905; G. Ellis, *Practical Joinery*, 1904; G. L. Sutcliffe, *Modern Carpenter, Joiner, and Cabinet Maker*, 1902; C. Binn and R. Marsden, *Principles of Educational Woodwork*, 1909; G. Ellis, *Modern Practical Joinery*, 1927, and *Lessons in Carpentry and Joinery*, 1928; R. Greenhalgh (ed.) *Joinery and Carpentry*, 1929.

Joint Adventure, partnership entered into for a single adventure or undertaking. Such a partnership is usually called a syndicate, and in the absence of express stipulation, the law presumes that the partnership comes to an end on the completion of the adventure or special financial or industrial project for which the syndicate was formed. The term

Certain bones, which are distinct in early life, tend to ossify after middle age. This *synostosis* is shown in the case of the fusion of the distinct *pubis*, *ischium*, and *ilium* into the single os *innominatum*. Imperfect J. (*amphiarthroses*) are those in which the conjoined bones or cartilages present no smooth surfaces, capable of rotatory motion to one another, but are connected by cartilages or ligaments, the flexibility of which alone allows of mobility at the junction. Examples of such J. occur in the vertebral column, where thick plates of fibro-cartilage separate the flat surfaces of the vertebrae. The arrangement gives considerable springiness to the column, and tends to eradicate shocks caused by the jar in walking, jumping, etc.; at the same time the body may be bent in any direction even though the actual movement between any pair of vertebrae be slight. The *pubic symphysis* and the *sacro-iliac* are only imperfect J., but in consequence of their presence the pelvis has considerably more elasticity than it would have if it were all one bone. In all perfect J. (diarthroses) the articulating bony surfaces are covered with cartilages, the convexities of the one cartilaginous cap fitting more or less closely into the concavities of the other. In some cases these articular cartilages are separated by interarticular plates of cartilage lying between them, and in this case the opposing faces of the interarticular and of the articular cartilages fit into one another; examples of such interarticular plates are

the semi-lunar cartilages of the knee joint. The J. is enclosed by a synovial membrane forming a closed sac and containing a viscid lubricating secretion termed synovia. Outside the synovial membrane is a sleeve of fibrous tissue, the capsular ligament. Sacs known as bursae, formed from synovial membrane, are present where J.s. are subjected to pressure, e.g. the prepatellar bursa of the knee J., which becomes inflamed in 'housemaid's knee.'



STRUCTURE OF A PERFECT JOINT
(DIARTHROSIS)

B, bone; AC, articular cartilages; SM, synovia membrane; JC, joint capsule; SF, cavity filled.

The actual shape of the surfaces forming the J. varies greatly and may be spheroidal, cylindrical, or pulley-shaped, and it is suggested that in some cases the movement to which a J. is subject may determine or modify its shape so as to cause it to present divergencies in different individuals. The following are some of the chief forms of J. of the human frame: (a) Ball and socket, a spheroidal surface furnished by one bone works within a cup furnished by another; this will allow of motion of the former bone in any direction, its extent being dependent on the concavity of the cup. This is deep in the case of the hip J. and the extent of movement is sacrificed to obtain additional strength. The shoulder yields an example of an extended movement, for in this the glenoid cavity is shallow. (b) Gliding, in which the articular surfaces are flat. Examples are given in the tarsal J., the intercarpal J., and in the jaw J. in one of its movements. (c) Hinge, which has a nearly cylindrical head fitting into a corresponding socket, the movement being practically restricted to a direction perpendicular to the axis of the cylinder: examples occur in the case of the elbow, knee, ankle, and interphalangeal J., where suitable attachments or bony processes prevent a backward dislocation. (d)

Double hinge or saddle, in which the articular surface of each bone is concave in one direction and convex in a direction at right angles to this, e.g. carpo-metacarpal J. of the thumb. The tarso-metatarsal of the big toe is not a saddle J. (e) Condylod, this is similar to the saddle and allows flexion, extension, and lateral movement and no rotation, but it is usually a weaker form of J.; examples, wrist and meta-carpo-phalangeal. (f) Pivot, in which one bone furnishes a pivot on which another turns, or it turns itself on its own axis resting on another bone; an example of the former is given in the case of the atlanto-axial, in which the odontoid peg of the axis passes through a ring-like portion of the atlas; this arrangement allows of the head being turned or shaken through a considerable angle. The occipito-atlantal J., used in nodding the head, is of a different type. The case of the rotation of a bone on its own axis is illustrated by the radius, which has a shallow cup adjacent to the humerus with a concave surface at its lower end which articulates with the ulnar. In pronation (i.e. when the hand is turned so that the palm faces downwards), the radius turns on its own axis at its upper end and glides round the ulna at its lower.

Diseases.—The chief diseases of J. are those affecting the synovial membrane or the bone itself and but rarely the articular cartilages or the ligaments. Accidental injuries may cause sprains, in which the ligaments are stretched or lacerated, and there may be bleeding into the synovial cavity; swelling and chronic synovitis may result. Careful bandaging or strapping is necessary. Contusion results from the violent driving together of two opposed ends of bones. Dislocation results in a separating of the bones, and is relatively frequent at the shoulder and less so at the hip. The ankle and wrist are seldom dislocated as the J. are usually stronger than the fibula and ulna respectively, which may fracture under the strain. Synovitis, or the inflammation of the synovial membrane, may be due to micro-organisms existing during blood-poisoning, fevers, etc., or it may be caused by a punctured wound of the J. Rest and suitable supporting bandages are essential. Infection of J.s., especially of the knee, is always a serious condition. Bursitis is inflammation of the bursa, as in the condition of housemaid's knee previously mentioned.

Permanent stiffness may be due to septic causes. The synovial membrane may be destroyed and an osseous solidification may render the J. inoperative.

Rheumatoid arthritis (q.v.) is particularly prevalent in certain areas and in certain types of individuals. The articular cartilages may be worn away and replaced by an extra growth of bone at the knee, hip, or fingers. In the last case the fingers are knotted and the hands deformed. The gradual spread of the complaint in the patient and the little response which it makes to treatment add to its ill-fame.

Joints, in geology, are divisional planes in rocks. They never extend beyond the

outmost crust, i.e. beyond the 'zone of fracture' as described by Van Hise, and vary in visible width from that of a hair to well-marked fissures, which in certain rocks may be widened by the solvent action of rain water, e.g. the grykes of the limestone regions of Yorkshire and the Lake Dist. They are most abundant in coherent rocks and absent in loosely packed material. In sedimentary rocks they normally run at right angles to the bedding planes, and there are well-marked dip joints at right angles to strike joints. Daubrée has proved that folding is largely responsible for their occurrence, and movement along a J. results in the formation of a fault; such movement is shown by the striated surfaces—slickensides—of some J. The force producing them was often of the greatest intensity, for pebbles existing in conglomerates have been found divided with cleancut surfaces. The J. not only give passages for the circulation of underground water but also for highly concentrated mineral solutions; on occasion the minerals are deposited and many mineral veins, e.g. calcite barytes, ores of lead, etc., are of this type. In igneous material the J., which are fewer usually, traverse lavas vertically and dykes horizontally. In Cornwall the master joints in igneous rocks are vertical, and a horizontal J. of frequent occurrence resembles the bedding plane mentioned above. This occurrence is of the greatest value in quarrying, as it tends to divide the rock masses into definite cuboidal blocks. Contraction during desiccation or cooling also gives well-marked fissures, and the hexagonal columns of, e.g., the Giant's Causeway have doubtless been produced by the latter action.

Joint-Stock Bank, *see* BANKS AND BANKING.

Joint-Stock Company, *see* COMPANY AND COMPANY LAW.

Joint Tenancy. Where two or more persons hold the same lands by grant (q.v.) or devise (i.e. under a will), there being in the instrument of title no words indicating that they are to take in distinct shares, such common ownership is called a J. T. The prin. characteristic of a J. T. is the right of survivorship, wherein it differs from a tenancy in common (*see* under COMMON TENANCY). In an action the Chancery Court will order a sale instead of partition if those interested to the extent of one-half request it, but if less require a sale the court may direct a sale unless the others buy out the interest of the party or parties requesting sale.

Jointure, in law, is a term denoting the provision made for a wife out of her husband's property in the event of his predecease. Unlike dower, it is not limited to real estate, but now includes any provision made by a settlement for the support of the wife in the event of her surviving her husband. The doctrine of J. originated in the equity courts by way of substitution for dower in cases in which the latter had no application. The Statute of Uses originated the modern J. which usually takes the form of a yearly rent-charge or annuity created by a

marriage settlement specifying the mode and time of its payment.

Joinville, *see* DOÑA FRANCISCA.

Joinville, François Ferdinand Philippe Louis Marie d'Orléans, Prince de (1818–1900), third son of Louis Philippe, king of France, b. at Neuilly. He entered the navy and became a lieutenant in 1836, first distinguishing himself at the bombardment of San Juan de Ulloa (1838). In 1840 he was given the charge of conveying the body of Napoleon from St. Helena. In 1845 he successfully bombarded Tangier and occupied Mogador in Morocco. At the revolution of 1818, he sought refuge with the rest of his family in England. In 1870 he returned incognito to France, and fought at Orléans, but on the revelation of his name was expelled by Gambetta. From 1871–76, however, he was allowed to sit as member for Haute-Marne in the National Assembly.

Joinville, Jean Sire de (1224–1317), Fr. historian, and seigneur of Champagne. He accompanied Louis IX. (Saint Louis) in his unlucky Crusade (1248–54), and while at Acre composed his *Credo* or confession of faith (1250). He began his *Vie de St. Louis*, at the request of Jeanne de Champagne, when he was nearly eighty (completed 1309). There is an excellent critical ed. of this by Natalis de Wailly (1874). *See* A. F. Didot, *Études sur Joinville*, 1870, and A. F. Delaborde, *Jean de Joinville*, 1894.

Joinville, tn. in the dept. of Haute-Marne, France, on the R. Marne, was the bp. of Jean de Joinville and of Mary of Guise. The château was erected under the direction of the duke of Guise. The tn. contains blast furnaces, and manuf. chain cables. Pop. 3000.

Joinville-le-Pont, com., Seine, France, near the Bois de Vincennes, and 5 m. E. of Paris. Pop. 13,600.

Jókai, Maurice (1823–1904), Hungarian novelist, b. at Rév-Komárom. He qualified as an advocate, but, encouraged by the praises of the Hungarian Academy about his play *Zeido ju* (Jew Boy), he went to Pesth and embarked on a literary career. The pub. of his romance *Hétköznapiak* (1815) marked an epoch in Hungarian literature, and firmly estab. its author's reputation. For his part in the revolution of 1848–49, and his support of Kossuth, he was proscribed by the gov., and his life was only saved by a stratagem of his wife, Rosa Laborfalvy, the tragic actress. Among his romances, nearly all of which have been trans. into Eng., are: *The Golden Age of Transylvania*, and its sequel, *The Turks in Hungary* (1903); *Timar's Two Worlds* (1888), perhaps his masterpiece; *Eyes like the Sea*, which won the Academy's prize in 1890; *Midst the Wild Carpathians* (1894), with its sequel, *The Slaves of the Pashah* (1903); *Pretty Michal* (1897), *The Lion of Jamina* (1897), *A Christian, but a Roman* (1900), *The Baur's Sons* (1902), and *Tales from Jókai* (1901), with a biography by R. N. Bain. *See* H. W. Temperley, 'Maurice Jókai and the Historical Novel,' in *Contemporary Review*, July, 1904, and life by F. Zsigmond (Budapest), 1924.

Jokjokarta, residency, and the cap., of Java in the central part of the is. Area 1200 sq. m. Sugar, rice, and indigo are cultivated, and salt, coal, marble, and gold are found. Pop. about 900,000. Also the cap. of the above, at the foot of Mt. Merapi, 35 m. S. of Surakarta, on the railway from Batavia to Surabaya. Has a remarkable native palace and the ruins of an old Dutch tn. and fort. There are famous temple ruins and monuments nearby. It was the seat of the Dutch resident before the Jap. invasion in 1942. The Jogka mkt. is famous for jewelry. It was here that the only serious insurrection against Brit. rule took place, in the year 1812. The is. had been taken by an expeditionary force from India from the gov. set up by Napoleon to whom the is. had passed with the rest of the Dutch Empire. This revolt was put down speedily by the tremendous energy, daring, and leadership of one of the most extraordinary figures in the hist. of the Brit. Army, Maj. Gen. Rollo Gillespie, whom the historian Sir John Fortescue thought was 'the bravest man that ever wore a red coat.'

J. was again a hotbed of insurgent nationalism in the autumn of 1945 during the Indonesian revolt against the Allies following the defeat of Japan. Pop. 120,000.

Joliba River, see NIGER.

Joliet, Louis (1645-1700), Fr.-Canadian explorer, b. at Quebec; commissioned 1672 to explore the Mississippi, which he did, as also the Fox, Wisconsin, and Illinois Rs.

Joliet, city and co. seat of Will co., Illinois, U.S.A., on the Des Plaines R., and 40 m. S.W. of Chicago. It is a shipping centre and there is a deep waterway to Illinois R. It is connected with six railways, the Chicago Sanitary Dist. Ship Canal, and the Illinois and Michigan Canal. It is the seat of the state penitentiary, and the headquarters of large steel works. Pop. 42,300.

Joliette, or **Industry Village**, tn. in Quebec, Canada, 35 m. N. of Montreal. It is an agric. centre, and has manufs. of paper, iron goods, flour, and lumber. Pop. 4500.

Joliot-Curie, Frédéric (b. 1900), Fr. physicist; prof. of the Radium Institute, Paris. He shared the Nobel Prize for chem. in 1935 with his wife, Irene Joliot-Curie (b. 1897; daughter of Marya Skłodowska) for their joint synthesis of new radioactive elements. He is director of atomic research in France.

Jolly-boat, small clinker-built boat, not so large as a cutter; it is usually hoisted at the stern of a vessel, and used for miscellaneous services. It has a bluff bow, and a wide transom, and is about 4 ft. in beam and 12 ft. in length.

Jolo Archipelago, see SULU.

Jom Kippur, see YOM HA-KIPPURIM.

Jomada I. and II., see JUMADA.

Jomelli, Nicolo (1714-74), It. composer, b. at Aversa, near Naples. In 1737 his first opera, *L'Errore Amorofo*, was successfully produced at Naples. In 1748 one of his finest operas, *Didone*, was produced

at Vienna. In 1753 he was appointed chapel-master to the duke of Württemberg at Stuttgart. His best known works are the operas *Iphigenia* and *Armida*, a *Miserere*, and a *Requiem*. See life by H. Abert, 1908.

Jomini, Antoine Henri, Baron (1770-1869), general in the Fr. and afterwards in the Russian service, b. at Payerne, canton Vand, Switzerland. He served in the campaign of Austerlitz, and became prin. alide-de-camp to Marshal Ney in 1805. His *Traité des grandes opérations militaires* (1804-5) brought him to the notice of Napoleon, under whom he served at Jena and Eylau. He served through the Peninsular campaign (1808), but after the retreat from Moscow entered the Russian service, in which he took part in the Russo-Turkish War, especially at the siege of Varna (1828). Besides the *Traité*, he wrote: *Principes de la stratégie* (1818), *Précis de l'art de la guerre* (1830), *Histoire de la Révolution* (1806), and *Vie de Napoléon* (1827). See F. Lecomte, *Le Général Jomini*, 1861, and C. A. Sainte-Beuve, *Vie*, 1869.

Jonah, son of Amittai, is described in 2 Kings xiv. 25 as a Galilean of Gath-hepher who prophesied during the reign of Jeroboam II, announcing forthcoming victories over the Aramaeans (2 Kings xiv). The legend of his life, immensely popular in the Middle Ages, is related in the book which bears his name.

Jonah, The Book of, the only one of the books of the twelve minor prophets which does not purport to be the work of the prophet whose name it bears. This book is a narrative of the call of Jonah to prophesy against Nineveh, his attempt to avoid this duty, and his ultimate success, followed by his reproaches to God whom ultimately, on the repentance of the Ninevites, the impending punishment is avoided and thus his prophecy remains unfulfilled. The story belongs to the Midrashim: and the Midrash may be defined in the words of Dr. Driver as 'an imaginative development of a thought or theme suggested by Scripture, especially a didactic or homiletic exposition, or an edifying religious story' (*Intro. to the Lit. of the O.T.*, p. 197). It would be perilous and difficult to attempt to connect the Jonah of this book with any historical personage. The story is post-exilic, and is based to a large extent on Persian and Babylonian mythology. The incident of the whale, suggested by Persian mythology, symbolised Israel's temporary absorption by Assyria. The chief point of the parable lies in the writer's attempt to show that Jonah was mistaken firstly in supposing that Nineveh was less precious than Israel to Jehovah, and secondly in reproaching Him for His acceptance of the penitent. The writer sought to show that divine care was not limited to the chosen race. The story of the 'gourd' which terminates the book is probably an original product of the author's imagination. See S. R. Driver, *Introduction to the Literature of the Old Testament*, 1891, and commentaries on the *Twelve Minor Prophets*.

Jonas, Justus (1493-1555), Ger. Protestant reformer, b. at Nordhausen in Thuringia. He was canon of St. Severus and prof. of law at Erfurt in 1518, and prof. of theology at Wittenberg (1521). He was an intimate friend of Luther, whom he accompanied to the Diet of Worms and aided in his trans. of the Bible. See T. I. Pressel, *Monograph*, 1863, and Meyer's *Festschrift des 400. Jahrgens Geburtstag des Dr. Justus Jonas*, 1893.

Jonathan: (1) Son of Gershom and descendant of Moses, was the chief of the priests at Dan (Judges xviii. 30) in the time of Micah the Ephraimite. (2) Eldest son of Saul. The touching account of his friendship with David is a popular heritage. He was slain at Gilboa, where Saul also met his death. (3) Son of Mattathias, and brother of Judas, whom he succeeded as leader of the Maccabean party. His statesmanship was greater than his ability as a warrior, and to it he owed the favourable terms which he made for the insurgents with Bacchides, the Syrian governor. He became high-priest in 153 B.C., but was slain in captivity eleven years later.

Jonathan, Brother, personification of the U.S.A., corresponding to the Eng. 'John Bull'. The phrase has now been largely superseded by 'Uncle Sam.' The name is supposed to have come from Jonathan Trumbull (1710-85), governor of Connecticut and friend of Washington.

Joncières, Felix Ludger, called Victorin de (1839-1903), Fr. musical composer, b. in Paris. His early admiration for Wagner was the cause of his leaving the Paris Conservatoire, but although the influence of Wagner is traceable throughout his work, he adhered to the recognised forms of Fr. opera and took Gounod as his model. From 1871 he was musical critic for *La Liberté*. His chief productions are the operas, *Sardanapale* (1867), *Dernier Jour de Pompeii* (1869), *Dimitri* (1876), *La Reine Berthe* (1878), *Lancelot* (1900), the incidental music to *Hamlet* (1863-68); a symphony; and other works.

Jones, Daniel (b. 1831), Eng. philologist. Educated Radley, Univ. College School, and King's College, Cambridge. Studied for the law and was called to the Bar in 1907, in which year he also became lecturer in phonetics at Univ. College, London. In 1921 he became prof. of phonetics at London, and has also lectured at Paris, Bonn, Cologne, Hamburg, Copenhagen, Upsala, Rotterdam, and in the U.S.A., and in India. Secretary of the International Phonetic Association from 1928 and assistant ed. of its organ, *Le Maître phonétique* (1907-1940), editor since 1940. Works include: *An English Pronouncing Dictionary*, based on S. Brit. speech (1898; rev. eds. 1911, and 1947), *A Chart of English Speech Sounds* (1908), *The Pronunciation of English* (2nd ed. 1947), *An Outline of English Phonetics* (1922), and *The Pronunciation of Russian*, with M. V. Trolhoun, 1923.

Jones, Ebenezer (1820-60), Eng. poet, b. at Islington, London. The early death of his father cut short his education, and compelled him to become a clerk in a tea merchant's office. His defective educa-

tion is very apparent in his first vol. of poetry, *Studies of Sensation and Event* (1843), which was very unfavourably received, although admired by Browning and Rossetti. His three remarkable poems, *Winter Hymn to the Snow*, *When the World is Burning*, and *To Death*, were written when he was dying. See the ed. of *Studies of Sensation* by R. H. Shepherd (1879), with a memoir by Sumner Jones, also papers by T. Watts-Dunton in the *Athenæum*, Sept. 1878.

Jones, Sir Edward Burnes, see BURNES-JONES, SIR EDWARD.

Jones, Emily Elizabeth Constance (1848-1922), Eng. lecturer and schoolmistress; daughter of Dr. J. Jones, of Langstone Court, Herefordshire. At Cambridge, took a first in the Moral Sciences Tripos, 1880. She lectured on moral science at Girton from 1884, becoming mistress 1903. Her works include trans. and ed. of Lotze's *Microcosmus* (with E. Hamilton) (1885), *General Logic* (1890), *Primer of Logic* (1905), *Primer of Ethics* (1911).

Jones, Ernest Charles (1819-69), Eng. Chartist, b. in Berlin of Eng. parentage, and educated at Göttingen. In 1844 he was called to the Bar at the Middle Temple, but in 1845 joined the Chartist movement, and speedily became one of its most noted orators. His open advocacy of physical violence led to his imprisonment for sedition (1848-50). In prison he wrote *The Revolt of Hindostan*, an epic poem. He also pub. a novel, *The Wood Spirit* (1841) and a number of poems, including *The Battle Day* (1855).

Jones, Sir Harold Spencer (b. 1890), has held the position of Astronomer Royal since 1933. He was b. in London and educated at Latimer Upper School, Hammersmith, and Jesus College, Cambridge. From 1913 to 1923 he was Chief Assistant at the Royal Observatory, Greenwich, and from 1923 to 1933 held the post of H.M. Astronomer at the Cape of Good Hope. In 1913 he was awarded the Royal Medal of the Royal Society and the Gold Medal of the Royal Astronomical Society. He is a past president of the latter Society and of the Brit. Astronomical Association, and was vice-president of the International Astronomical Union from 1935 to 1938. He has pub. *General Astronomy* (1922), *Worlds Without End* (1935), *The Earth as a Clock* (1939), *Life on Other Worlds* (1940), *The Royal Observatory, Greenwich* (1943), and *John Couch Adams and the Discovery of Neptune* (1947).

Jones, Henry (1831-99), Eng. author, b. in London. He practised as a physician in London from 1852-69. In 1862 under the pseudonym of 'Cavendish' he pub. *The Laws and Principles of Whist Explained by Cavendish*. He was a member of sev. whist clubs, including the 'Cavendish.' His work became the standard authority on the game. See W. P. Courtney, *English Whist and Whist Players*, 1904.

Jones, Sir Henry (1852-1922), Eng. philosopher; b. at Llangernyw, N. Wales. First worked as a shoemaker. Graduated at Glasgow Univ. with first-class honours, 1878. Held the chairs of philosophy and

political economy at Bangor Univ. College, 1884-91; and of logic and metaphysics at St. Andrews Univ., 1891-91. From 1894 he was prof. of moral philosophy at Glasgow Univ. He was LL.D. of St. Andrews, and D.Litt. of Wales. Works include: *Browning as a Religious and Philosophical Teacher* (1891), *The Philosophy of Lotze* (1895), *Idealism as a Practical Creed* (1909), and *The Working Faith of the Social Reformer* (1910)—the first and last of which gained him considerable popularity and influence. Elected fellow of Brit. Academy, 1904. Knighted 1912.

Jones, Henry Arthur (1851-1929). Eng. playwright, b. at Grandborough, Bucks; son of Silvanus J., tenant-farmer. He attended a grammar-school at Winslow till he was thirteen. He was obliged to adopt a commercial career; but gained his first hearing as a dramatist with *Only Round the Corner*, produced at the Exeter Theatre in 1879, and *A Clerical Error* (1879), produced in London. His melodrama, *The Silver King*, written with H. Herman and produced by Wilson Barrett in 1882, scored a great success. His *Saints and Sinners* (1884) was the subject of controversy on account of its religious element. *The Middleman* (1889) and *Judah* (1890) mark an advance in technical skill. *The Dancing Girl* (1891, revised as *The Dancing Mistress* in 1913), *The Crusaders* (1891), *The Bauble Shop* (1893), *The Templer* (1893), *The Musqueraders* (1891), *The Case of Rebellious Susan* (1891), *Michael and his Lost Angel* (1896), *The Rogue's Comedy* (1896), *The Physician* (1897)—all these for the most part deal more nearly with the problems of everyday life. His poetical drama, *The Templer* (1893), was not a success; but with *The Triumph of the Philistines* (1895), he began a series of successful plays—which include: *The Laars* (1897) and *The Herne Stubbs* (1906). His later 'serious' plays include: *Carnac Sahib* and *The Manoeuvres of Jane* (1899), *The Lackey's Carnival* (1900), *Mrs. Dane's Defence* (1900), *Chance, the Idol and the Princess's Nose* (1902); *Whitewashing Julia*, 1903; *Joseph Entangled and The Chevalier*, (1904), *The Hypocrites* (1906), *Dolly Reforming Herself* (1908), *The Knife* (1909); and *The Ogre* (1911). A uniform edition of his plays began to be issued in 1891 and his views on dramatic art are given in *The Renaissance of the English Drama* (1895). When J. began playwriting, he was something of a pioneer. But he gradually settled down to parlour-comedy—if it could be called comedy at all—in which he continually preached a morality whose criterion was 'What will people think?' By the time of the First World War he had unknowingly lost touch with what people were thinking. His onslaughts on the internationalism he hated (which included the League of Nations) were chiefly: *The Pacificists*, a play which was a failure (1917), and *My Dear Wells* (1921), a book in which, not only E. G. Wells, but also everybody else (including Bernard Shaw) who had intellectually left him behind, was assailed.

Jones, Inigo (c. 1573-c. 1652), Eng. architect, b. in London. Sometimes called the 'Eng. Palladio.' J. was the first to introduce pure Renaissance architecture, adapting It. ideas, especially those of Palladio, to Eng. requirements. One of his innovations was the interval staircase. Little is known of his life, beyond the fact that he appears to have travelled a great deal, particularly in Italy. His talent for drawing was remarked by Wm. Howard, third earl of Pembroke, who sent him to Italy to study painting. At Venice he transferred his attention to architecture, and in 1604 was invited to Denmark, where he is said to have designed the palaces of Rosenborg and Frederiksborg. He accompanied Anne of Denmark to the Eng. court in 1604, and there designed the scenery for



INIGO JONES

Ben Jonson's *Masque of Blackness*, given at Whitehall. In 1615, after a second visit to Italy, J. became surveyor-general of the royal buildings, and in 1617 he began the Queen's House at Greenwich. In 1619 he was commissioned to design additions to Whitehall, including the banquet-room. He held the same offices under Charles I. The Civil War interfered with his activities, and his loyalty to the Stuarts caused him to be fined twice, so that other examples of his work are not numerous. At Greenwich Hospital, he is responsible also for King Charles's block, completed from his drawings by John A. Webb, and of his tn. houses the best examples are to be found in Lindsay's Haunt, others in Lincoln's Inn Fields. Another good example of his style is to be found in St. Paul's, Covent Garden, burnt down in 1705, but re-erected in the same style; and the double cube room at Wilton House is a splendid example of his interior decoration. See 'Life' by Peter Cunningham, 1848; W. J. Loftie, *Inigo Jones and Wren*, 1893; H. V. Cotterill, *A History of Art*, 1922; Marie Luise Gothein, *History of Garden Art* (trans. 1928).

Jones, John (c. 1765-1827), Unitarian minister, b. in Carmarthenshire. In 1795 he was appointed pastor at Plymouth

Dock, and subsequently at Halifax, Yorkshire, and in London. The introduction of Gk.-Eng. lexicons is due to him. Gk. having hitherto been studied only through Lat. books. His *Greek and English Lexicon* was pub. in 1823. He pub. *Illustrations of the Four Gospels* (1808).

Jones, John Paul (1747-92), commander and the first great hero in the Amer. navy, b. at Kirkcubright, Scotland. In 1764 he shipped as mate on a slaver and made sev. voyages to America. Born in a labourer's family, he assumed the name of Jones when he settled in Virginia, his next names being John Paul. When war broke out between England and America in 1775, J. was given a commission in the Amer. navy. In 1778 he was sent on a mission to Brest, and during a cruise round the Brit. coasts succeeded in capturing the *Drake*, and surprising the garrison of Whitehaven. In 1779 he took command in one of the most famous sea-fights in hist. He had command of three ships led by the *Bonhomme Richard* off Flamborough Head, Eng. The *Serapis* surrendered when sinking. J.'s ship sank the next day. In 1788 he joined the Russian navy, taking part in the battle of Liman (1788), but left in 1789. He died in Paris, and the record of his burial place was lost until in 1905 it was discovered in the Protestant part of the old St. Louis cemetery. His body was then escorted by a fleet of Amer. warships to Annapolis. See J. Sherburn, *Life of Paul Jones*, 1825; Janette Taylor, *Collections*, 1830; *Life* by O. Townsend Brady in Great Commanders Series, 1900; and Winston Churchill's novel, *Richard Carrel*, 1903.

Jones, Thomas Gwynne (1872-1949), Welsh poet and son of a Denbighshire farmer. He was on the staff of a Welsh newspaper (*Genedl Gymreig*) in Caernarvon when he was appointed to the staff of the newly estab. National Library of Wales. In 1913 he was appointed lecturer in Welsh literature at the Univ. College of Wales, Aberystwyth, and in 1918 became prof. His first book of verse was pub. when he was little more than a boy. His second vol. *Gulad y Gan* appeared in 1902, after he had already pub. two Welsh novels, and it was in that year that he won the National Eisteddfod chair at Bangor with his *Ymadrodd Arthur* a poem which heralded a new era in Welsh literature. He won the national chair again in 1909, with his *Gulad y Bryntau*, and from then his place in Welsh literature was assured. In 1912 he wrote a biography of Emrys ap Iwan the preacher and linguist and a 'life' of Thomas Gee, his first editor (1913); this book is in effect a hist. of Welsh politics. In his verse J. was a constant experimenter and innovator, working, however, on the foundation of the classical tradition. He also wrote some vols. of essays, sev. plays, and a book in Eng. on Welsh folk-lure. He also produced a critical ed. of the poems of Tudor Aled (1926), trans. of *Faust* and *Macbeth*, an anthology of Irish poems trans. into Welsh and a version of *Y Bardd Cwec* in Eng.

Jones, Sir William (1746-94), Eng. oriental scholar, b. in London. He devoted himself to the study of European and Oriental languages from childhood, and in 1768 rendered a Persian *Life of Nadir Shah* into Fr. at the request of King Christian of Denmark. In 1781 he pub. a trans. of some anc. Arabic poems called *Muallakat* (1781). In 1783 he was appointed to a judgeship in Bengal, which he held till his death; he devoted his leisure to the study of Hindu law, the results of which were pub. under the title *Digest of Hindu Laws* (1800). His *Persian Grammar* was pub. in 1772, but it was in the study of Sanskrit that his work was most valuable. His last work was a trans. of *Institutes of Manu* (1794). His collected works were pub. by Lord Teignmouth in 1799, with memoir prefixed in 1804. J.'s *Autobiography* was pub. by his son in 1846.

Jonesboro, co. seat of Craighead co., Arkansas, U.S.A., 60 m. N.W. of Memphis; has manufs. of leather and cotton-oil, and a large lumber trade. Agriculture is carried on in the dist. Pop. 11,700.

Jongkind, Johan Barthold (1819-91), Dutch landscape painter and engraver, b. at Lattrop. He was one of the imitators of Impressionism (q.v.).

Jongleurs, Jugglers, or Joculatores (Lat. *joculator*, a jester) were the descendants in medieval times of the Rom. mimes, the strolling players who were all that remained in the fourth century of the once great Rom. theatre. They appeared at festivals, gave their entertainment, and vanished again into obscurity; but they alone carried down such traditions as remained of the anc. pagan drama, and ultimately combined them with the new religious drama. In N. France they very early adapted the religious drama for secular purposes, and came to be confused with the *trouweres*, who corresponded with the 'minstrels' of Saxon times. But the *trouweres* or minstrels were a superior class of entertainers; they were generally attached to great households to sing of war and noble deeds, whereas the J. were vagabonds strolling from vil. to vil. to exhibit their juggling and pantomimic tricks. The requirements of a J. are quoted by Sismondi: 'He must know how to compose and rhyme well, and how to compose a *jeu parti*. He must be able to play on the tambourine and cymbals; to throw and catch little balls on the point of a knife; to imitate the songs of birds; to play tricks with the baskets; to exhibit attacks of castles, and leaps through four hoops; to play on the citole and the mandore; to handle the clavichord and the guitar; to string the wheel with seventeen chords; to play on the harp; and to adapt a jig to so as to enliven a psalm'—a combination, in fact, of the anc. minstrel and the modern conjuror (q.v.) and variety entertainer. They lived and travelled after the manner of present-day gipsies in companies, and, according to Lacroix, under 'kings' of their own, but whether they were largely composed of

the gipsy element is uncertain. See L. Sismond, *Historical View of the Literature of the South of Europe* (trans. P. Roscoe, 2nd ed.), 1846; P. Lacroix, *Manners, etc., of the Middle Ages*, 1876.

Jönköping, tn. of Sweden, the cap. of the prov. (län) of the same name, 170 m. S.W. of Stockholm and 80 m. E. of Gothenburg, at the S. end of Lake Wetter. It has a great safety-match factory, a good shipping trade, and manufs. of snuff and cigars, paper, carpets and damask, dye and asphalt. It has played an important part in Scandinavian hist., and was the scene of the conclusion of peace between Sweden and Denmark in 1809. Area of prov. 1417 sq. m. Pop. (prov.) 259,200, (tn.) 39,900.

Jonquil, popular name for *Narcissus jonquilla*, a well-known and beautiful species of *Amaryllidaceae* largely cultivated in Britain. Sev. of the flowers are borne on one stem; in colour they are yellow and the corona is well developed.

Jonson, Ben (c. 1573-1637), Eng. poet and dramatist, was b. at Westminster, posthumous son of a clergyman of Scottish descent. Educated at Westminster School under Wm. Camden, and after working for some time for his stepfather, a bricklayer, went abroad to join the Brit. army in Flanders. He returned in 1592, and soon afterwards took to the stage. He joined the Admiral's Company, and not only took part in the performances, but also acted as back-dramatist. Killing his challenger in a duel in 1598 all but cost him his life; he was branded on the thumb, imprisoned, and his goods confiscated. In prison he became a Catholic, but twelve years later reverted to Protestantism. A quarrel with the manager, Henslowe, resulted in his offering, in 1598, his first known comedy, *Every Man in his Humour*, to the rival company, the Lord Chamberlain's Servants, by whom it was produced at the Globe Theatre, with Shakespeare in the cast. The play was successful, and J. was at a bound enrolled among the list of the leading dramatists.

His next most important plays were: *Every Man out of his Humour* (1599), *Cynthia's Revels* (1600), *The Poetaster* (1601), and *Sejanus* (a tragedy, 1603). These were followed by: *Volpone*, or *The Fox* (1606), *Epicoene*, or *The Silent Woman* (1609), and *The Alchemist* (1610), his most elaborate and masterly play. In all he is credited with eighteen plays, although there were probably many more of which he was author or part-author. In addition to these he wrote sev. masques, numerous poems, and some works in prose. In 1619 he received the laureateship, and a small pension from the king. J. acquired a position to which scarcely any man of letters before him had attained. 'His conversation,' Clarendon has recorded, 'was very good and with men of most note.' He was on friendly terms with Bacon, Selden, Camden, Donne, and Fletcher, and certainly he knew Shakespeare. With Suckling, Herrick and others he founded the Apollo Club at the Devil Tavern. He was also a member of the famous Mermaid

Tavern (q.v.). He died in poverty, but was buried in Westminster Abbey, his tombstone being inscribed with the words 'O rare Ben Jonson' (meaning it has been said, 'Pray (Lat. *Orare*) for Ben Jonson.' As a dramatist, he is second only to Shakespeare, with the possible exception of Marlowe. As a satirist he was magnificent, as a humorist unrivalled except by the master-dramatist himself. His poetry was exquisite, and he gave to everything he wrote the hall-mark of his vivid personality. He wrote some thirty-five masques in the production of which Inigo Jones provided the mechanisms. His best work was his lyrics, among them 'Drink to me only with thine eyes.'

His collected works are those ed. by W. Gifford (1816), which was re-issued in 1875 with corrections by F. Cunningham; and C. N. Herford and P. Simpson (1925, in course of pub.). See lives by W. Gifford, 1816; J. A. Symonds, 1894; G. Smith, 1919; J. Palmer, 1931. See also A. O. Swinburne, *Study of Ben Jonson*, 1889; A. W. Ward, *History of English Dramatic Literature* (2nd ed. 1899); E. Arber (ed.), *British Anthologies*, 1900-01; M. Castelnau, *Ben Jonson: l'homme et l'œuvre*, 1907; T. S. Eliot, *The Sacred Wood*, 1920; A. Huxley, *On the Margin*, 1923.

Jonsong, pass in the Himalayas, at an altitude of over 21,000 ft. in the ridge connecting Kanchenjunga with Nepal.

Jonsson, Björn, see Björn.

Jonzac, tn. in the dept. of Charente-Maritime, France, on the Seudre, 18 m. S.S.W. of Cognac. Cap. of the arron. of Jonzac. Pop. 3100.

Joplin, city of Jasper co., Missouri, U.S.A., 140 m. S. of Kansas City. Has large smelting and white lead works, and rich lead and zinc mines. Prin. industries are dairying, agriculture, and fruit growing. It is on the Missouri, Kansas, and Texas and other railways. Pop. 37,100.

Joppa, ant. name of Jaffa.

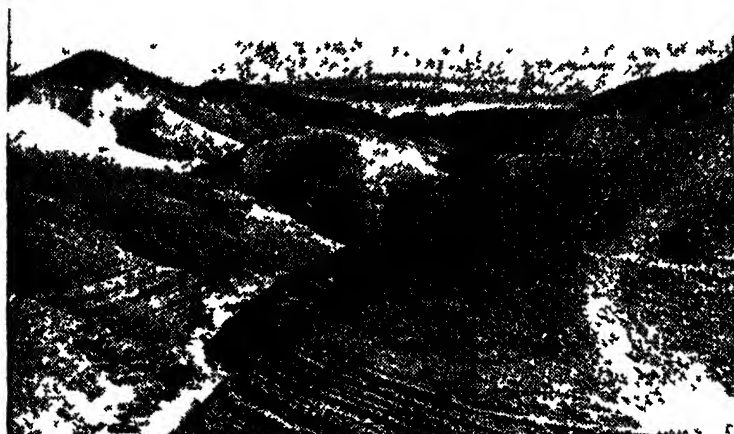
Jordaens, Jakob (1593-1678), Flemish painter, b. at Antwerp. He studied under Van Oort and Rubens, being indebted to the latter for most of his artistic knowledge, and subsequently being employed by him. After Rubens's death, J. was recognised as leader of the Antwerp school. His colouring was rich and harmonious, and he excelled especially in depicting humorous scenes. He also painted allegorical subjects and religious pictures, the best known among the latter being: 'The Last Supper,' 'The Martyrdom of St. Apollonia,' 'The Adoration of the Shepherds,' and 'Christ in the Midst of the Doctors.' See P. Buschmann, *Jordaens et son Œuvre*, 1903, and a life by E. Herliès, 1920.

Jordan, Dorothea (1762-1816), Eng. actress, made her theatrical début at Dublin in 1777 as Phoebe in *As You Like It*. She acquired much experience in the proa, and it was not until 1785 she first appeared in the metropolis at Drury Lane, with which theatre she did not sever her connection until her retirement from the stage twenty-one years later. She made no mark in tragic rôles, but as a comed-

ienne she won many laurels. She had more than one intrigue before 1790, about which time she became the mistress of the duke of Clarence (afterwards William IV). She bore him many children, who took the name of Fitzclarence, and became well known in society. and the liaison lasted until 1811. Four years later she went abroad where, at St Cloud, she died in 1816. There is a biography by J. Rothen (1831).

Jordan, Sir Joseph (1603-85), Eng. admiral, who fought in the Dutch wars and was in command at the victory of Solebay in 1672, serving as vice-admiral of the Blue.

Galilee), where it is already more than 600 ft below sea level. The most important feature in its course between the Sea of Galilee and the Dead Sea is the rocky cleft known as the Ghor, some 65 m long and from 3 to 12 m in breadth, through which it passes. It then falls into the Dead Sea at a point 1292 ft below the level of the Mediterranean. The course of the J is extremely tortuous, its total length being about 160 m. Processions to the J take place from Jericho at the Orthodox Epiphany and Easter, when white shrouded pilgrims bathe in the riv - the bathing place of the pilgrim is supposed to be the scene of the baptism of



THE VALLEY OF THE JORDAN

L.N.A.

Jordan, Thomas (c. 1612-85), Eng. poet and pamphleteer, b in London. He began life as an actor at the Red Bull Theatre, Clerkenwell, publishing his first vol. of poems *Poetical Exercises* in 1637. In 1671 he was appointed laureate to the corporation of London, and composed every year a panegyric on the Lord Mayor, and arranged the pageants, celebrating them in verse. He wrote many works, some of which are preserved in the Brit. Museum.

Jordan, most important riv. of Palestine. It runs from N. to S. through a great valley some 160 m long and at times as much as 12 m broad. The highest source is 1700 ft above sea level on the W. of Mt. Hermon, near to the vil. of Hishbea, and under the name of the Hashbany flows to join the Laddan and the Banias, which have already united into one stream. Thence the J flows S. into Lake Huleh and the Lake of Tiberias (Sea of

Christ, the miraculous div. of the waters by the cloak of Elijah, and the legend of St. Christopher, who carried the Infant Christ across the river. See W. F. Lynch, *Narrative of the U.S. Expedition 1849*, see also DIAN SIA GAILLI, PALESTINE. **Jordan, The Hashimite Kingdom of**, see TRANSJORDAN.

Jordanes, or **Jornandes** (fl. 550), historian and ecclesiastic of the sixth century. Originally a notary at the Ostrogoth court in Italy, he became a monk, and finally bishop of Crotona, though the last appointment is rejected by some as unauthentic. His prin. work is *De Getarum Origine et Rebus Gestis*, the only source of information of the hist. of the Goths. The best ed. is by C. A. Closs (1938). He also wrote another lat. historical work, *De Regnorum et Temporum Successione*, a compendium of hist. from the creation to A.D. 552. J. was a good compiler, but displayed little

original thought. See Stahlberg, *Jordanides*, 1884.

Jorga, Nicolas (or *Neculai Jorga*) (1871-1940), Rumanian historian, miscellaneous writer, and statesman; b. at Botoshan; son of Neculai I., advocate. Educated at the univs. of Jassy, Berlin, and Leipzig; and at the *École des Hautes Études*, Paris. Wrote in Fr., Ger., It., and Swedish, besides his own language. Became prof. of universal hist. at Bucharest in 1894. His hist. of Rumania, based on the characteristic belief that the Rumanian people's past was the record of a homogeneous nation unnaturally divided by Magyar, Ger., and Russian, earned him the title of the 'Livy of Rumania.' He was many years chief of the Nationalist party. His *History of the Byzantine Empire* (1901) was trans. into Eng. in 1907. He wrote a large number of books on Balkan hist., and his plays were a feature in the Rumanian theatre. Tutor and friend of Prince Charles (Carol), he was largely instrumental in securing his return from exile and restoration to the throne. In 1931 he became premier of a non-party cabinet. His murder by the Iron Guard or Rumanian Nazis, may have been due partly to the antagonism between him and Codreanu (true name Zilinsky), founder of the Iron Guards, who was himself assassinated in 1938.

Jorgensen, Adolf Ditlev (1840-99), Dan. historian, b. at Graastad. In 1869 he became director of the royal archives, and in 1889 director of the Copenhagen Institute. His first book was trans. as *La Fondation et les premiers progrès de l'église Scandinave* (1874-78), treating of the hist. of the Middle Ages. Other works include *Histoire des Archives du royaume de Danemark* (1884), and *Fortællingen af Nordens Historie* (1892).

Jørgensen, Jens Johannes (b. 1866), Dan. author, b. at Svendborg. His philosophical and religious works are of high literary merit. They include *Beuron* (1898), *Bogen om Rom* (1901), and *Pilgrimshagen* (1903); *Confession* (1895), and *Poems* (1898), are better than his earlier poetical work. He pub. an examination into Ger. charges against Belgium (1915—trans., 1916, as *False Witness*). His autobiography was pub. in Eng. (1928-1929). He pub. *Charles de Foucauld* in 1931.

Jortin, John (1698-1770), Eng. church historian and critic, b. in London of Huguenot parentage. He was educated at Charterhouse and Jesus College, Camb., graduating in 1719. In 1749 he was appointed Boyle lecturer. Subsequently he became vicar of Kensington, a prebendary of St. Paul's, and archdeacon of London. Amongst his principal works are: *Miscellaneous Observations upon Authors, ancient and modern* (1731-32), *Remarks on Ecclesiastical History* (1767-73), *The Life of Erasmus* (1758-60), *Lusus Poeticus* (an early volume of Lat. verse), *Sermons and Charges* (1781), etc. See J. Disney, *Memoirs of the Life and Writings of John Jortin* (1792).

Jorullo, or Xorullo, volcano of Mexico which came into existence in Sept. 1759,

when a great eruption occurred. Has an altitude of 4315 ft.

Josaphat, see BARLAAM AND JOSAPHAT. **Josefstadt**, tn. of Bohemia, Czechoslovakia, 11 m. N. of Hradec Králové (Königgrätz), and formerly a strong fortress. It is on the R. Mettau. Pop. about 5000.

Joseph: (1) Eldest son of Jacob and Rachel, and brother of Benjamin. His hist. is told with great detail in the Book of Genesis. The important points in it are his journey to Egypt, and the ensuing journey of the whole of the Israelitish tribes, his rise to supreme power in Egypt, and the taking of his bones for burial in Shechem. The special connection of J. with Egypt is most important, and throws much light on the patriarchal hist. (2) Husband of the Virgin Mary, spoken of in the gospels as the 'father' of Jesus. It is, of course, made clear that he was not the father of Jesus in the physical sense, but rather his guardian. The Church has, moreover, always held that he was never more than a guardian to Blessed Mary, who remained Ever-Virgin. He last appears in the Gospel hist. in connection with the going up of Jesus to the Temple at the age of twelve. From the fact that he is not mentioned in connection with our Lord's ministry, it has been gathered that he had died before this began. It is probable that the 'brothers' of our Lord were the sons of J. by a former wife. (3) J. of Arimathea, a rich Israelite of high rank, and possibly a member of the Sanhedrin or Great Council, who was in secret a disciple of Jesus until His crucifixion. He then went boldly to Pilate and obtained leave to take down the sacred body. This done, he interred it in his own tomb. (4) J. called Barsabas, surnamed Justus, chosen as one of two candidates to fill the place in the apostolate left vacant by the death of Judas Iscariot. His name does not occur again in the canonical writings.

Joseph, King of Naples, see DONAPARTE — *Joseph Bonaparte*.

Joseph I. (1678-1711), Holy Rom. emperor, son of Leopold I., b. at Vienna. In 1687 he was crowned king of Hungary; in 1690 king of the Romans, succeeding his father as emperor and ruler of the Hapsburg dominions in 1705. Supported by England, Holland, and Savoy, he warred successfully against Louis XIV. (Sp. Succession War). The allies were commanded by Prince Eugene and Marlborough. J. granted privileges to the Protestants. See Lange, *Leben und Thaten des Kaisers Joseph I.*, 1712; F. Wagner, *Historia Josephi I. Caesaris Augusti*, 1745; J. Herchenhahn, *Geschichte der Regierung Kaisers Joseph I.*, 1786-89; M. Uhlirz, *Handbuch der Geschichte Österreichs* (1), 1927.

Joseph II. (1741-90), Holy Rom. emperor, son of Francis of Lorraine and Maria Theresa of Austria, b. at Vienna. He became king of the Romans in 1764, succeeding his father as emperor in 1785. In 1772 he signed a treaty with Russia and Prussia dividing Poland among the three. On his mother's death (1780) he came into

possession of Hungary and all the hereditary dominions of Austria. In the Turkish war (1788-89) his general, Laudon, won sev. victories, but the result was unsuccessful. J. made many reforms, regulating the taxes and enforcing religious toleration, but he proved over-zealous, and alienated many of his subjects. Thus attempts to correct abuses in the Rom. Catholic Church caused a rising in Belgium, and the Hungarians opposed his proposals to make the Ger. language universal. He was succeeded by his brother, Leopold II. See the lives by L. de Caraccioli, 1790; M. Huber, 1792; Ramshorne, 1845; H. Brunner, (2nd ed.) 1885; P. von Mitrofanov, 1910; and E. Benedict, 1936, 1916. See also C. Pagnoul, *Histoire de Joseph II.*, 1843; H. Schlittor, *Pius VI. und Joseph II.*, 1891.

Joseph of Exeter (L. Josephus Iscanus) (fl. about 1200), medieval Lat. poet, native of Exeter. His most important works are: *Panegyricus ad Henricum*; *De Bello Trojano* (6 books); and *Antiochus*, a poem on the third Crusade, on which he accompanied Archbishop Baldwin in 1188.

Joséphine, Maria Rose (1763-1814), empress of the Fr. and first wife of Napoleon, b. at Poissy (near Paris), Martinique, her father being captain of the port of Saint Pierre. Her maiden name was Tascher de la Pagerie, and she first married the Vicomte de Beauharnais, to whom she bore Eugène, later viceroy of Italy, and a daughter Hortense, afterwards queen of Holland and mother of the Emperor Napoleon III. Beauharnais was guillotined during the Reign of Terror (1794), and two years later his widow married Napoleon Bonaparte. She exercised a great influence over the emperor, and at the Luxembourg and the Tuilleries attracted around her the most brilliant society of France; but the union proving unfruitful, the marriage was dissolved in 1809, and the following year Napoleon married Maria Louise of Austria. See J. Aubenas, *Histoire de l'Impératrice Joséphine*, 1859; and M. Le Normand, *Memoirs of the Empress Joséphine*, 1904.

Josephus Flavius (37 to after 100 A.D.), celebrated Jewish historian (the 'Grecian Livy') and general, of both royal and sacerdotal lineage. He appears to have joined the sect. of the Essenes, and spent three years with a hermit, Banos, in the desert, but in 56 he became a Pharisee. In 63 he visited Rome as deputy to Nero to procure the release of some Jewish priests, and succeeded through the influence of Poppaea. On his return he opposed the revolutionary spirit of his countrymen, but became governor of the two Galilees at the outbreak of war with Rome. In 67 he bravely defended Jotapata against the Romans under Vespasian, but the latter was finally victorious. J. was saved for predicting that Vespasian would soon wear the imperial purple. He was kept for a time in honourable confinement, and then fought with the Rom. army at the destruction of Jerusalem by Titus (70). His influence saved the lives of many of his friends. Vespasian made him a full Rom.

citizen, and he adopted the name 'Flavius' as a compliment to the emperor. His chief works are: *History of the Jewish War* (from 170 B.C. to his own times), Ἰουδαϊκὴ Ἀρχαιολογία (from the creation to A.D. 66); *Autobiography* (Eng. trans. by Trill, 1862); and a treatise *Against Apion of Alexandria*. See ed. of the Gk. text by Ben Niese (1885-95) and S. A. Naber (1888-96); Eng. version of A. R. Whiston (1737), revised by W. Shilleto (1889). See Van Hooevell, *Flavii Josephi Vita*, 1835; A. Bärwald, *Josephus in Galiläa*, 1877; M. Krekol, *Josephus und Lukas*, 1891; J. von Destinon, *Die Quellen des Flavius Josephus*, 1882; H. Druner, *Untersuchungen über Josephus*, 1897; M. Friedländer, *Geschichte der jüdischen Apologetik*, 1903; R. Laqueur, *Der jüdische Historiker Josephus*, 1920; H. St. John Thackeray, *Josephus*, 1929; L. Fenchelwanger, *Josephus*, 1932.

Joshkar-Ola, cap. of the Mari Autonomous Republic of the R.S.F.S.R., about 80 mi. N.W. of Kazan. It lies on the Volga-Uzsha canal, and is a railway terminus.

Joshua, son of Nun, was in his early days an attendant on Moses, and on his death became leader of the Israelites in the conquest of Canaan. He is said (Num. xiii. 8 and 16) to have been of the tribe of Ephraim, and at first to have borne the name of Hosea. He died (Joshua xxiv. 29 ff.) at the age of 110, and was buried at Timnath-Serah.

Joshua, The Book of, canonical book of the O.T., being one of the books of the div. known as 'Former' Prophets. It narrates the story of the invasion and conquest of Canaan (chaps. i.-xii.) and the div. of the land among the tribes (chaps. xiii.-xxiv.). The book ends with two addresses delivered by Joshua a little before his death. It was once taken for granted that the book was written by Joshua himself, but this is obviously impossible, since it speaks of events that happened in much later times. It is closely connected with the books of the Pentateuch, forming, indeed, their complement. They are occupied chiefly with the prophecies of the conquest of Canaan, which Joshua narrates. Recent criticism has made it clear that the B. o. J. was compiled from the same sources and by the same steps as the other books of the Hexateuch (q.v.). In its present form it probably goes back to the fifth century B.C.

Joshua Tree, *Yucca brevifolia*, which attains to a height of thirty-five feet, one of a genus containing about thirty species, occurring most often in Mexico and Central America. It is fertilised entirely through the agency of the yucca-moth. This moth, called the Pronuba moth, was first observed sixty years ago to scrape the pollen off a yucca flower, roll it up into a ball, and fly off to another yucca plant, which she impregnates with four or five eggs, placing the ball of food firmly in the pistil. Her larva feed on the seeds of the yucca plant, twenty seeds to one larva; so that there remain of the plant's 200 seeds, about 100, from which the plant can be perpetuated. Only by this means can a

yucca be sure of getting its seed. The J. T. is not much known in Great Britain, but other species of yucca, the *yucca gloriosa* for example, are hardy enough to grow out of doors in the Brit. winter, and flower at rare intervals, with blossoms of singular beauty, white, creamy, tinged with green, and bell-shaped.

Josiah (c. 639-608 B.C.), son of Amon and king of Judah. He came to the throne at the age of eight, but nothing is told us of the earlier part of his reign. In the eighteenth year of his reign, however, occurred the finding of the Book of the Law (see DEUTERONOMY) which inaugurated a new era of reform. For many years after this J. ruled in peace and prosperity, but in 608 Pharaoh Neco II. came N. to press his claims in the partition of the Assyrian empire. J., about whose foreign policy we are told little, attempted to stop his progress with an army, and fell at Megiddo.

Josika, Baron Miklós (1796-1865), Hungarian novelist, b. at Torda in Transylvania. He wrote a series of romances after the style of Sir Walter Scott. They aimed at a high moral standard, though enlivened with occasional humorous touches, and achieved great popularity. J. became involved in the Revolution of 1848, and was forced to live in exile at Brussels and Dresden, where he died. His chief novels are: *Abafi* (1836), *The Last Dutory* (1837), *The Bohemians in Hungary* (1840), *Esther* (1853), *A Hungarian Family during the Revolution* (1851), etc. His collected works were pub. in 25 vols. (1901-09).

Josquin, Deprez (c. 1415-1521), Flemish musical composer, b. near St. Quentin, Hainault, one of the greatest masters of the Netherland school. For some time he was chapel-master at St. Quentin, and from 1471 to 1484 he was musician at the papal court of Sixtus IV. He was regarded as the greatest composer of his day, and gave a great impetus to music in Italy. His printed compositions consist of 19 masses, 50 secular pieces, and upwards of 150 motets.

Joss, Chinese idol. A joss-house is a Chinese temple; a joss-stick is a thin stick of fragrant timber mixed with clay, used by the Chinese as incense and burned before the statue of an ancestor or holy personage.

Jost, Isaac Markus (1793-1860), Jewish historian, b. at Bernburg, Anhalt, Germany. From 1826-35 he was a school-master at Berlin, and from 1835-60 held a similar position at Frankfurt-on-Main. His chief works were three lists, of the Israelites pub. between 1820 and 1859 including *Geschichte des Judentums und seiner Sekten* (1857-59). He also ed. a Ger. trans. of the Mishnah (1823-34). See H. Zirndorf, *Isaak Markus Jost*, 1886.

Jostedal, tn. in Norway, about 110 m. N.E. of Bergen, at the E. base of the plateau of Jostedalabrá, the largest glacier-field of Europe.

Jötun (plural Jötunn), in Norse mythology, the name of certain mythical beings hostile to men, to Thor, and to the beneficent Æsir. These 'giants' or 'de-

vourers' are types of the untamable, destructive forces of Nature, Loki being the father of the mightiest and most dreaded of the race. Their abode was Jötunheim or Utgard, desert regions in the far N., and they figure largely in the Scandinavian Eddas. See O. Keyser, *Religion of the Northmen*, 1841; B. Thorpe, *Northern Mythology*, i. 1852.

Joubert, Joseph (1751-1824), Fr. philosopher and critic, b. at Montignac, pupil and later prof. at the Jesu College at Toulouse, till about 1776. Going to Paris (1778) he became a member of the brilliant literary circles there, and was an intimate of La Fontaine, Chateaubriand pub. selected writings (not intended for pub.) as *Pensées, essais, maximes, et correspondances*, 1818 (new ed. 1842, with 'Notice' by P. de Raynal). See M. Arnold, *Essays in Criticism*, 1867; J. Condamin, *Essai sur Joseph Joubert*, 1877; A. Beauquier, *La Jeunesse de Joseph Joubert*, 1918, and *Le Roman d'une amitié, Joseph Joubert et Mme. de Beau mont*, 1921.

Joubert, Petrus Jacobus ('Slim Plot') (c. 1831-1900), Boer general and politician, b. at Camo, Natal, of Dutch-Huguenot parentage, commandant-general of the S. African Republic (1880-1900). After serving with the United States forces in the civil war he became a successful farmer and a prominent citizen of the Transvaal, being acting president (1874) during Burger's visit to Europe. J. went to England with Kruger (1878) to protest against the proposed annexation of the Transvaal, proclaiming its independence (1880) with Kruger and Pretorius. He won the victories of Laing's Nek, Ingogo, and Majuba Hill (1881) in the war with England. In 1893 J. contested the presidency with Kruger, losing by only about 665 votes. In 1896 he defeated Jameson at the time of his great raid. He devoted much time to the military organisation of his country, and on the outbreak of the Boer War (1899) commanded the army in Natal. He besieged Gen. White in Ladysmith, after which his health failed, and he retired to Pretoria. He was a brave and upright man, commanding the respect of his foes.

Jouffroy d'Abbans, Claude François Dorothee, Marquis de (1751-1832), Fr. engineer and inventor of steam navigation, b. at Rochers-sur-Rognon, Haute-Marne, a captain of infantry before the Revolution. He conceived the idea of applying steam to navigation on seeing a fire-engine at Chaillet (1775). His first attempt was on the Doubs (1776), a more successful one being on the Saône (1783). Through lack of means and influence he lost the fame which Fulton won (1803). His *Charles-Philippe* was launched on the Seine (1816), and he pub. *Les Baléus à Vapeur* (1816). The Academy recognised his rights (1840), and Fulton proclaimed them in U.S.A. See monograph by A. Prost.

Jouffroy, Théodore Simon (1796-1842), Fr. philosopher, b. at Les Pontets Doubs, entered École Normale (1813), studying under Royer-Collard and Cousin, and

became teacher there from 1817-22. He was prof. at the Collège de France (1832), leaving through ill-health to become librarian at Paris Univ. (1838). J. made Scottish philosophy known in France. His works include trans. of Dugald Stewart (1826), and Reid (1828-36); *Cours de droit naturel* (1834-42); *Mélanges Philosophiques* (1833); *Nouveaux Mélanges* (1842). See 'Notice' by F. A. M. Mignet, 1863, and life by C. J. Tissot, 1876.

Jougs, Jugs, or Joggs (Lat. *jugum*, yoke), form of pillory used in Scotland and the Low Countries as a punishment for eccles. and minor civil offences from the fifteenth to the eighteenth centuries. It consisted of a hinged iron ring or collar for the delinquent's neck, and was chained to a pillar or wall in some public place. An example remains at the church yard gate of Duddingston near Edinburgh. See also **BRANK**, **PILLOW**, and **STOCKS**.

Joule, James Prescott (1818-89), Eng. physicist, b. in Salford. A pupil of Dalton, but largely self-taught. His first discoveries were made in electro-magnetism, and in *Annals of Electricity* (1837) he pub. a description of an electro-magnetic engine which he had invented. He adopted a convenient and scientific unit of work in practical electricity, called after him 'Joule.' It is the work done in one second by the 'ampère,' or unit current flowing through the 'ohm,' or unit resistance, equal to about 10,000,000 ergs (see **ELECTRICITY**, **HEAT**). J. is considered one of the founders of the theory of the correlation of forces, and in 1847 stated the doctrine of the 'Conservation of Energy.' Much of his time after 1843 was spent in determining by different methods with the greatest possible accuracy the mechanical equivalent of heat, and he pub. *A New Theory of Heat* (1850) See O. Reynolds's memoir, 1892.

Jourdan, Jean Baptiste, Comte (1762-1833), Fr. general, b. at Lihogues, served in America, and rose to be head of the army of the N. (1793), defeating the Austrians at Wattignies. In 1794 he won the victory of Fleurus, driving the Austrians beyond the Rhine, and besieging Mainz (1795). After this he was less successful, being defeated by the Archduke Charles at Amberg and Würzburg, in 1796 and again in 1799, whereupon he resigned his command to Massena. He defended himself in *Opérations de l'Armée de Danube* (1799), and became famous as framer of the conscription law (1798). Under Napoleon he became director of affairs in Piedmont in 1800; marshal in 1804, and governor of Naples in 1806. He accompanied King Joseph to Spain in 1808. Though created a peer by Louis XVIII. in 1819, he heartily supported the revolution of 1830. His last years were spent as governor of the Invalides. See J. de Courcelles, *Dictionnaire des généraux français* (1820-22), Michaud, *Notices historiques sur le Maréchal Jourdan*.

Journal, Le, Paris daily paper, literary and artistic, founded in 1892 by Fernand Xau, not avowedly political. Henri

Letellier has been director since 1899. Among its contributors have been Anatole France, G. Hanoataux, A. Herget, E. Gautier, Dr. Doyen, J. Bois, and P. Ginisty.

Journal des Débats, Le, Paris daily literary paper of moderate Republican politics since 1870. It was founded by Beaudouin (1789) to report the sessions of the National Assembly. It was acquired by the Bertin family (1799), confiscated by Napoleon (1811-14), and then recovered by the Bertins. Etienne de Naleche has been director since 1895, and made it an evening instead of a morning paper. Among famous contributors have been P. Bourget, E. Faguet, J. Lemaitre, G. Berger, G. Perrot, and E. Rostand. It did not re-appear after the Second World War.

Journalism. The evolution of J., and especially Eng. J., is one of the romantic episodes of human hist. Names crowd upon the memory, from Dr. Johnson and Fielding at one pole to Archibald Forbes and G. W. Steevens at the other, or from the *Letters of Junius* and the polemics of Addison and Steele to the humblest 'story' of a modern reporter-journalist. In its accidental development lies the strange part of the hist. of Eng. J. To modern minds it is incredible that it was not earlier realised what a weapon against political tyranny publicity would prove. Hence the germ of J. in pure and quasi-literary efforts, redolent of opinion and often guiltless of fact. Its fortuitous development is seen in the very anomaly of the genesis of the freedom of the Press. No formal assertion of such freedom is to be found, except in the stately lines of the *Areopagitica* of Milton. Its institution was the result of the refusal of the Commons in 1695 to renew the Licensing Act, which, in its turn, was an autocratic device consequent on the development of the art of printing. The newspaper proper begins with the development of the news letter, often in MS., which purveyed the 'chit-chat' of tn. much in the manner of the modern London or Paris letters, in a single printed sheet, posted on a fixed day in the week, and circulated in the provs. under the name of the *Weekly News*. This paper was pub. before 1693 and before the necessity for the permission of the Star Chamber to publish a newspaper was a thing of the past. It was by the sufferance of the gov. that other papers were allowed to appear, like the *London Mercury*, *True News*, and the *Protestant Intelligence*. After the political controversies over the Exclusion Bill, the motive for collusion with news publishers was gone, and there was a reversion to censorship with a consequent monopoly to the *London Gazette*. But it was not for long, and the appearance of the *Intelligencer* under the editorship of the remarkable Sir Roger l'Estrange in the reigns of Charles II. and James II. inaugurated an era of discussion of public questions in the newspaper Press, which ultimately resulted in that Press attaining the virtual position of the Fourth Estate of the Realm (see **ESTATES OF THE REALM**).

The age of Anne has been well described as the classic age of Eng. literature, and its influence on the newspaper Press was no less marked than in purely literary circles. Papers like the *Teller* and the *Spectator*, filled with the pub. wit of Addison, Pope, Steele, and Swift, burked politics altogether, in favour of satires on the transient, social foibles of the age. But there were a few other papers, like the Whig *Examiner* and Defoe's *Review of the Affairs of State*, which drew their breath of life from the atmosphere of politics. Fearless and scurrilous criticism of public men was inspired and even written by some of the foremost men in the state like Bolingbroke, and it began to change the character of newspapers. Henceforth they were a power to be reckoned with, which no bureaucratic action could repress, which constituted itself the guardian of public liberty, and which was courted directly or indirectly by ministers themselves. It was the practice of reporting the speeches of the opposition of the day that paved the way for publicist articles in the Press, for the reports were the material upon which they were necessarily founded. In constitutional theory it was a gross breach of parl. privilege to publish debates or discuss political questions in the Press, but by surreptitious means, reports, meagre it is true, crept into the papers, and before the middle of the eighteenth century the Press had become firmly estab. as the backbone of ministerial or anti-ministerial support.

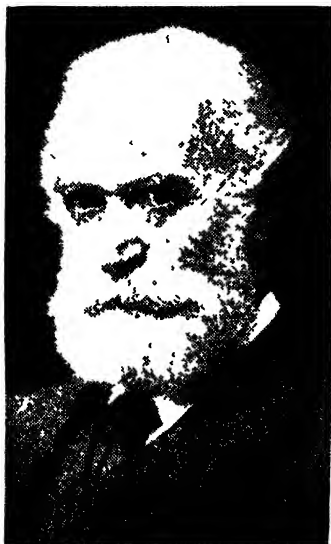
The triumph of John Wilkes and the *North Briton* marks a well-known epoch in the annals of Press criticism and vindicated the right of the Press to extend its criticism to the acts and words of the sovereign himself. The *Morning Chronicle* is generally credited with being the first paper to employ a regular staff of parliamentary reporters who actually took their places in relays in the gallery of the House, and James Perry, its editor, practically created the profession of J., though certainly not as we know that profession to-day. Developments in J. proceeded apace with the founding of the *Morning Post* in 1772, the *Morning Herald*, the *Courier*, the *Sun*, and the *Anti-Jacobin* before the end of the eighteenth century. The proprietors of the *Morning Herald* estab. correspondents in all the chief caps. of Europe and big tns. of Great Brit. Probably the rivalry between the *Morning Chronicle* and the *Times*, under the proprietorship of the famous John Walter, did more for the progress of Eng. newspaper J. than any other event. Each paper was constantly striving to surpass the other by the introduction of some novel feature. The 'leading article' became a work of art and no less a powerful influence in the interpretation of public opinion than a source of lively interest to readers in general. Coleridge, Peter Fraser, and John Sterling were among the most notable writers who set the earlier style of 'leaders,' and though the daily newspaper Press has not been remarkable for attracting the most distinguished writers,

it has been the Mecca of many a leader-writer of astonishing powers of pungent criticism. John Walter's adoption of printing by steam machinery in place of the slow system of printing by hand set the *Times* on the high road of its successful commercial and journalistic career. The enterprise of the *Daily Telegraph* in fitting out exploration parties in the early 'seventies and in using to the utmost the brilliant critiques and articles on social life, literature, and art of George Augustus Sala may almost be said to constitute the breaking-point with the early and mid-Victorian methods of newspaper J. The trenchant, vituperative, and slashing style, long becoming obsolescent, received its death-blow, not only from the keener public interest felt in matters outside mere politics, but from the reflection in the papers themselves of the greater culture and intellectual range of the people.

But modern J. also has its personal note, and that personal note is its outstanding characteristic. It is a different form of intimacy to that of the letters of Junius, or the fulminations of John Sterling of the 'Thunderer' (*The Times*). This is essentially the age of what is known as the 'human document.' With all its precision of diction and close adherence to classical models, there was in the J. of fifty (or even less) years ago a marked conventionality of tone. To us that tone seems to have been stilted and even 'priggish.' People generally, and writers no less, did not so much give free play to individual ideas as present everything in the form of independent or external phenomena, having no relation to human sympathies. It required the free play of democratic thought, not only to make art generally, and the art of J. in particular, conscious of itself, but to make criticism, which in its wider sense is the rock-bottom of J., really sincere. The progress of modern J. is a reflection of the restless and searching inquisitiveness of the age. The ramifications of the newspaper Press into every department of life are bounded by nothing but the discretion of its personnel and the law of libel. Perhaps, even in the later Victorian era, when monopoly and censorship were long-forgotten relics of the past, nothing existed to foreshadow the methods of the later J. which has been identified with the name of W. T. Stead. Big London dailies, which in that era were marked by a pompous dignity of style, succumbed to the influence of sensationalism. The modern craving for a paper that shall be readable in a limited space of time by a public pressed for time, necessitates the presentation of news in attractive form with headlines, and a precision in leaded type arranged in paragraphs.

Different classes of readers must be catered for in different fashions. The *Times* circulates essentially among the influential elements, whence something of old conventionality and austerity still permeates its tone and make-up. The same qualities mark the *Manchester Guardian*. C. P. Scott, the editor from 1872 to 1929 became one of the greatest figures in Brit. journalism.

One result of the progress of modern J. is the assignment to definite and separate spheres of J. proper and literature. The latter, no doubt, is present in the shape of book reviews and 'specials' (i.e. topical articles) on the 'literary page.' But these articles generally relate to matters of current public interest, and literary form in them is subordinate to the purpose



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of the article, which is primarily to persuade. The term 'Journalism' is admittedly a wide one, and in a manner of speaking is almost one of degree. Anything that is written germane to some event or incident in a periodical that belongs to the class of so-called 'public journals' is an effort of J. But the main spring of J. proper is news, and periodicals like the *Spectator* and *The Statesman and Nation* occupy a position midway between J. proper and literature. The duties of a journalist have become extraordinarily exacting. The greater his knowledge and experience of the world and of men the more successful is he likely to be. The most liberal education is useless without the knack of getting news and presenting that news in accurate, graphic, and convincing form. The goal of a journalist is, above all, to bring off a 'scoop' for his paper, i.e. the publication of a particular item of news before its appearance in the columns of any other paper. Opportunities occur in time of war and the war Correspondent's life is a hazardous one, as has recently been exemplified in the Sino-Jap. war, the Sp.

Civil war, and the campaigns of the Second World War and in other theatres of operations, where journalists have lost their lives or been taken prisoner. In regard to the training of a journalist England was long behind America, in that she had no schools of J. like the school of Journalism of the Univ. of Missouri, where a range of subjects is taught embracing sociology, economics, political science, Eng. hist., together with the arts of reporting, editorial writing, magazine J., and newspaper administration. A similar school of J. was set up, however, in London Univ., at King's College, which prepares students for a diploma examination.

It is said by a competent authority that Amer. J. has exercised considerable influence on Eng. J. The hunt for men with 'live' ideas and methods is essentially an Amer. habit. It is not far from the truth to say that America is the home of modern J. In France the influence of Amer. methods has been no less felt than in England. But the fine literary tradition of Fr. J. still lives in the signed article, and although the transition from literature to J., or in other words, from opinion to news, has resulted, as in England, in the mere co-ordination of politics with other items of intelligence, yet the frequent appearance of signed *articles de fond* by some of the most remarkable literary men of the age indicates not only the vitality of the national literary character, but the greater importance attributed by the Fr. people to the individuality of the journalist himself. This remains as true to-day as before the Second World War. Recent years have witnessed the development in Great Britain, as in America, of enormously powerful combinations of newspapers and periodicals, dominated by strong personalities. So far as J. as a calling is concerned, the danger of the combine lies in the stereotyping of opinion to the detriment of the individual outlook. The journalist becomes only the mouthpiece of his newspaper, uttering the views which the policy of his paper demands. On a free vote (October 29, 1946), the House of Commons by 270 to 157 votes adopted the motion of a Labour M.P. asking for a Royal Commission to inquire into the finance, control, management, and ownership of the Press. A somewhat similar inquiry was instituted in the United States with special emphasis on the preservation of the freedom of the Press, but it was not an official inquiry instituted by the gov. (See further under NEWSPAPERS.) See also ADVERTISEMENTS; NEWSPAPERS and articles on various newspapers.

Journalism in the U.S.A.—From feeble, almost timid beginnings, J. in the U.S.A. has grown not only as a great power in the land, but numerically and financially into a business far exceeding in extent and resources anything known anywhere else in the world. In 1689 and 1690 two issues of the *Boston Public Occurrences* were suppressed. The *Boston News Letter* was started in 1704 by John Campbell, who was the post-master of Boston. Other

papers were started in Boston and Philadelphia in 1719. New York, to day the undisputed metropolis of J., singularly enough had no regular newspaper of its own until the *New York Gazette* was founded in 1725. New York began to take its dominating position in Amer. J. in the early thirties and forties of the last century. As a result of the enterprise of three or four strong men, James Gordon Bennett, senior, started the *New York Herald* in 1835 with very slender resources. The *New York Tribune* was founded in 1841 with Horace Greeley as editor and part owner. The Civil war gave a great impetus to the newspapers of the N. with a public avid for news of the great conflict. The *New York Herald* began to do spectacular things such as sending Stanley to find Livingstone in the heart of Africa and equipping an expedition to the Arctic. Later Bennett made an innovation which was much derided at the time, but has since been copied by newspapers all over the U.S.A. and Great Britain—the society column.

A new development in retail business gave a fresh impetus to the newspapers. This was the foundation of what are known in the U.S.A. as department stores, which embrace under one roof a multitude of shops under one ownership, seeking to serve every need of the customer. To bring more trade to these shops the proprietors availed themselves of the medium of extensive advertisements in effective journals. Instead of small cards, they began to buy space to the extent of half a page, then of full pages. This enterprise on the part of advertisers brought vastly increased revenue to the papers. The era of building rich and powerful papers had begun. It was the editor, and not the newspaper which was famous. The quotations were from what Henry Watterson said in the *Cincinnati Courier Journal*, Charles A. Dana in the *New York Sun*, Murat Halstead in the *Cincinnati Commercial Gazette*, W. R. Nelson in the *Kansas City Star*. With the death or resignation of these men came the new era when the paper itself was pushed forward and the editor's name and personality were not so well known. In 1878 J. W. Scripps (q.v.) founded with slender capital the *Penny Press* afterwards the *Cleveland Press*, in Cleveland Ohio. It was independent in politics. It aspired ardently to help the under dog in life. The paper prospered and Scripps proceeded to found other evening papers along the same lines, until to day his successors control a chain of papers from coast to coast. In 1883 inspired by somewhat similar ideas, Joseph Pulitzer (q.v.) bought the then weak *New York World*, and made of it the most liberal organ in the metropolis. Pulitzer was an aggressive opponent, and he brought to Amer. J. a touch of sensationalism which was then new. In 1898 Adolph S. Ochs (q.v.) bought the semi moribund *New York Times*, and Wm. Randolph Hearst (q.v.) the *New York Journal*. They began to fight Pulitzer for circulation. Hearst conceded his papers even more sensationally

than Pulitzer, and gave rise to the term 'yellow journalism.' Ochs proceeded on more sober lines, tried to print all the news, and gradually made of his paper one of the wealthiest in the world.

The fight for circulation and advertising brought in its train the very large papers the people of the U.S.A. know to day. The daily papers both morning and evening, in New York range from forty to sixty pages. The Sunday ed of the *New York Herald Tribune* before the Second World War often had from 100 to 140 pages. Issuing big papers, the



Topical Press
RANDOLPH HEARST

editors have a great deal of space at their disposal, and are therefore in the market for good news feature stories. This demand gave rise to another peculiar development in Amer. J. the Newspaper Enterprise Association—one of the earliest in the field—and other similar concerns, started out to supply news features to one paper in each city. This developed even beyond the dream of its founders and before long the Newspaper Enterprise Association for instance was distributing to its clients not only news features but also editorials, the contents of a sports page, a woman's page, a religious column, book reviews, news of the cinema world and the dramatic field, news photos, and many strip cartoons. A later development in Amer. J. was the imitation in New York and a few other cities of the picture papers long familiar to Londoners in the *Daily Mirror* and *Daily Sketch*. Whereas the latter had before the Second World War from sixteen to thirty two pages daily, those in New York had about sixty pages. In popular language these papers are known as 'Tabloids'.

The trend in recent years in the U.S.A. has steadily been the reverse of that in

Great Britain. Whereas in the latter the morning papers have the largest circulation and popularity, in the U.S.A. it is the evening papers which have the primacy. Another marked tendency is for the establishment under one ownership, editorial direction, and management of chains of papers. The most notable of these are the Scripps-Howard chain, with papers in eighteen cities and total circulation of over 3,600,000, and the Hearst chain, with papers in eighteen cities with 5,384,700 daily and 9,975,900 Sunday circulation.

Finally there is one feature of Amer. J. unmatched anywhere else in the world. This is the number of papers printed in foreign languages. The reason for it is the polyglot pop. of the U.S.A. It has been estimated that the average circulation of the foreign language Press in the U.S.A. is about 2,300,000, divided as follows: Bohemian, 145,780; Chinese, 31,000; Finnish, 34,000; Fr., 44,000; Ger., 335,000; Gk., 35,000; Hungarian, 70,000; It., 315,000; Jap., 65,000; Lithuanian, 55,000; Polish, 382,000; Russian, 33,000; Slovak, 30,000; Slovenian 20,000; Sp., 55,000; Yiddish, 536,000; and other languages about 109,000. See L. N. Flint, *The Conscience of the Newspaper* (New York), 1925; G. F. Carr and F. E. Stevens, *Modern Journalism*, 1931; C. Bourdon, *Le Journalisme d'aujourd'hui*, 1931; R. Christenson, *Le Développement de la Presse*, 1941; I. Rothenberg, *The Newspaper*, 1917; A. Aspinall, *Politics and the Press, 1750-1860*, 1949.

See also MAGAZINES and NEWSPAPERS. Journalists, Institute of, senior organisation of the profession, incorporated by Royal Charter in 1890. It had its origin in the National Society of Journalists, which was founded in 1883 and converted into the Institute in 1889. Its primary object, as set forth in the Charter, is 'the promotion by all reasonable means of the interests of journalists and journalists.' In addition to being a corporate professional society, the Institute is a certificated trade union and, as such, is fully recognised as a negotiating body on salaries and working conditions of journalists. There are two professional classes of membership, called fellows and members; and a class of junior members undergoing preparation for professional membership. Fellows are journalists of recognised professional standing or of special experience or distinction. Two small non-professional classes consist of associates and honorary members. There is an Overseas List, consisting of members of Brit. nationality resident overseas, and a Foreign List, comprising of members of foreign nationality resident abroad. Women are eligible for the sev. classes of membership on the same terms as men. The Institute has its own Hall at 2-4 Tudor Street, E.C. 4.

Journalists, National Union of, Brit. trade union of the 'working journalist.' Numbers in its membership most of the salaried journalists on the daily and weekly newspapers, besides most of those paid on space. It has done much to

secure improved rates of pay for reporters and sub-writers. Offices are at 96 Regent Street, London, W. 1.

Joust, see TOURNAMENT.

Jove, see JUPITER.

Jovellanos (or Jove Llanos), Don Gaspar Melchior de (1744-1810), Sp. author and statesman, magistrate at Seville and Madrid. In 1790 he shared in the disgrace of Cabarrus, but Charles III. made him minister of justice in 1797. Imprisoned in Majorca through the intrigues of Godoy (q.v.) on the latter's fall and the revolution of 1808 he returned and became a member of the Central Junta. He wrote the tragedy *El Pelago* (1769), the comedy *El Delincuente Honrado* (1773), *Memorias Políticas* (1801), and *A Mis Compatriotas* (1811), a defence of the Junta and himself against suspicions of treason. See lives by E. González Blanco (1911), J. Juderías (1913), and C. Artihano y de Caldecano (1913).

Jovianus (or Jovinianus), Flavius Claudius (A.D. 363-4), Rom. emperor, b. about 331. He was captain of the praetorian guards under Julian, accompanying him against the Persians. J. escaped with the army to the Tigris on the death of Julian (363), and was soon chosen as his successor. He was obliged to conclude a humiliating peace with the Persian king, Sapor (or Shapur), ceding various districts and fortresses, including Nisibis. He proclaimed Christianity at Antioch, upheld the Nicene Creed against the Arians, and restored Athanasius to the see of Alexandria. The manner of his death at Dadastana is uncertain. See J. de la Héroüe, *Histoire de Jovien*, 1740; E. Gibbon, *Decline and Fall of the Roman Empire* (chs. xxiv., xxv.); Ammianus Marcellinus, xxv.; Themistius, Or., v., vii. Jovinus, Gaulish usurper, perhaps grandson of Jovinus (d. 379), and Rom. general under Honorius. In A.D. 411 he assumed the imperial title, winning part of Gaul, but was attacked by the Franks and Visigoths under King Athaulphus, allies of Honorius. J. was defeated by them at Valence (412), and routed by the Rom. prefect Dardanus.

Jowett, Benjamin (1817-93), Eng. scholar, and theologian, educated at St. Paul's and Oxford, becoming fellow of Balliol (1838), tutor (1842-70), and finally master (1870). He was Regius Prof. of Gk. at Oxford (1853). One of the greatest moral teachers of his age, he became intimate with Stanley, joining him and Tait in advocating certain univ. reforms (1846). His personal influence at the Univ. was very great, and although his views met with no little hostility he had numerous supporters, his pupils being especially enthusiastic in their support. Among his pupils at Balliol were Curzon, Asquith, Grey (of Fallodon), Bowen, Loreburn, Gore, Lang (the archbishop), Morier, Tout, Caird, Swinburne, and Walter Morrison. The flow of Balliol successes bred envy and some malice outside the college and even in the college itself maintenance of the flow tended to become an objective in itself. Sir Robert Morier, J.'s best-loved pupil, certainly owed his

ambassadorial career to J.; not indeed because J. exercised any influence in official quarters but solely because he converted a lax, imperfectly-educated but able young man into a worker. In J.'s own mind the desire to see his young men succeed sprang from hatred of failure. His own father had been a failure and his boyhood one of extreme poverty and loneliness; and this gave the spur to his efforts on behalf of his pupils. Beginning from nothing, he ended as a kind of mentor-in-chief to most of the great Victorians, men and women alike. He was incomparably the greatest educator of able young men England has produced. One of the Broad Church school, his *Epistles of St. Paul to the Thessalonians, Galatians, Romans, with Critical Notes and Dissertations* (1855) and a contribution to *Essays and Reviews* (1860) roused a storm of criticism and hostility. But he undoubtedly led the way to a new understanding of St. Paul. He may be said to have rediscovered the Gk. philosophers; his outstanding work in this sphere being his trans. of Plato's *Dialogues* (1871). There followed a trans. of Thucydides (1881), and of Aristotle's *Politics* (1885). His *College Sermons* were pub. in 1895. He also played a part in the world of affairs, notably in the reform of medieval Oxford and the reconstruction of the Indian Civil Service. See Evelyn Abbott and L. Campbell, *Life and Letters of Benjamin Jowett*, 1897, and (ed.) *The Letters of Benjamin Jowett*, 1899; L. Tollenache, *Benjamin Jowett*, 1895.

Joyce, James Augustine Aloysius (1882-1941), Irish writer, b. in Dublin on Feb. 2, 1882, one of a large and poor family. Educated at the National Univ. of Ireland and graduated in 1902. Early had strong literary tendencies. In 1903-04 he was in Paris engaged first in medical studies and, later, in having his voice trained for the concert platform. He returned to Dublin and pub. a few stories but could not make a living, and therefore, with his wife, migrated to Trieste where he taught Eng., having much talent for languages. Again returned to Dublin to start a cinema theatre which, however, failed. Hitherto his only book was one of lyrics called *Chamber Music* (1907). His only other verse was *Pomes Penyeach* (1927). In 1914 appeared *Dubliners*, which had been delayed for nine years through wrangling with publishers over excisions demanded by them. *A Portrait of the Artist as a Young Man* was serialised by Ezra Pound in the *Egoist* (1914-15). At this time he was under 'free arrest' in Austria but was allowed to go to Zürich, where he formed a company of Irish players who performed his play *Exiles* (1918), which was modelled on Ibsen's work. He had already begun his chief work, *Ulysses*, in 1914, which appeared serially in the *Little Review* (New York), from 1918 to 1920, at which date it was banned by a prosecution launched by the Society for the Suppression of Vice. At Zürich his sight began to fail and, a few years after the war, he settled in Paris. *Ulysses* was pub. in book form in Paris

and London in 1922, but was not allowed to circulate in England or America. Eds. were printed in Paris and thousands of copies were smuggled into England by individual book collectors. His next work, *Work in Progress*, began to appear in 1927 in parts under various titles. In it the word-coinage which was a feature of *Ulysses* was extended to the point of incomprehensibility. *Ulysses* is a bitter and ferocious satire, which was variously hailed as a tremendous libel on humanity and as the *chef d'œuvre* of a second Terullian. Bloom, the chief character, has been described as a rag-and-tatters Hamlet, a proletarian Lear 'mirroring' life and showing it to be hideous. The book purports to relate the whole mental and physical hist. of Bloom, Jewish advertisement canvasser, and Dedalus, scholar-philosopher, during one single day in Dublin. J. claimed to have discovered his literary device in Edouard Dujardin's forgotten novel, *Les Lauriers sont coupés* (1888), and certainly it is to be found employed by Proust, Dorothy Richardson, and other writers, and it has had a far-reaching influence on the technique of many other modern writers. J. worked in great poverty for much of his life and had numerous operations for cataract. He died in Zürich on Jan. 13, 1941.

J.'s earlier books give scarcely a hint either of the power which went to the making of *Ulysses* or of the perversity which makes his even more ambitious experiment, *Finnegan's Wake* (1939), completely unintelligible. It must be admitted that even *Ulysses* would have been less widely read or carefully studied, and therefore less influential among the younger writers of its day, but for a reputation gratuitously made for it by the Brit. Customs officials, who autocratically took it upon themselves to treat the early eds., printed on the Continent, as unfit for circulation in this country. The American courts, which insisted that his picture of an Irishman's day was morally innocuous, showed greater discernment than did the Eng. officials or most of J.'s own countrymen. That J. was a genuine artist, sincere and profound, is clear from the simplicity of his early short stories, *The Dubliners* (1916), and from the well-defined autobiographical narrative, *Portrait of the Artist as a Young Man* (1916). In *Ulysses* he essayed the difficult task of presenting a complete picture of the life of the individual in our time, both conscious and sub-conscious, the simple, sinning, groping man with the hard unrelenting universe around him. In *Finnegan's Wake* he seems to be trying to break through the barriers of time, but so complex is the medium that, without commentary, few can follow the meaning. One of the inspirations of this book was the It. Giambattista Vico's *Scienza Nuova*, first pub. in 1725. To Vico in part can be traced J.'s idea of word-formations as the key to the human mind and to the various phases of experience. J.'s originality lies in his discovery of a literary form for expressing the inconsequent complexity of the human

mind and the shadowy similarity that its migrations bear to the orderliness of grammatical sentences or the appearance of time and space. In a word, he annihilated the ordinary and the normal, and revealed a chaotic world of the mental and emotional reactions which may come over men in a single day. He was not, however, so much a pioneer as a revivalist. The main-pring of all his later work was a revulsion against what he felt to be the sterility of the intellectualised modern consciousness—the same revulsion as that which characterised the work of D. H. Lawrence, who idealised the instinctive behaviour of peasants and primitive people. But whereas Lawrence was concerned with problems of conduct, personal and social, J., as an erudite scholar of markedly academic temperament, was interested particularly in questions of language and style. He sought to devise a new form of language, which would not merely convey meanings to the conscious intellect, but would stir the unconscious mind to direct experience of a poetic reality embodied in the sound and rhythm of the words. This new language was fully developed only in his last book, *Finnegans Wake*. Its obscurities, hailed as ultra-modernistic, in fact represented a return to the kind of speech which philologists believe must have been the common speech of mankind in distant ages before the invention of writing. But for J.'s readers unfortunately it was a language that had to be learnt, and probably it has been thoroughly understood by no-one save J. himself. See lives by E. Dujardin, 1931 and H. Gorman, 1941; see also C. G. Jung, in *Modern Man in Search of a Soul*, 1933.

Joyce, William (1906–1946), b. in New York, his father being a native of Co. Mayo, Ireland, and his mother a native of Crompton, Lancashire, England. The father became a naturalised Amer. citizen in Oct. 1894. A citizen of the United States, J. accepted the harbourage of Britain for eighteen years; he took an active part in its politics; by declaring himself a Brit. subject he obtained, in 1933, a Brit. passport for holidays abroad and renewed it for a year in Aug. 1939; on Sept. 18, 1940, he was in Germany, employed by the Ger. radio company. Though his broadcasts were always rather a subject for ridicule than for alarm, (he was nicknamed 'Lord Haw-Haw' by a Brit. journalist and this label certainly helped to lessen his propagandist effectiveness) their bitterness to a country which had given him hospitality for the greater part of his life disintegrated him to any sympathy when, after the Second World War, he was tried and convicted of treason at the Old Bailey (Sept. 1945). His appeal to the House of Lords was dismissed (Feb. 1, 1946) and he was executed. In all nine judges pronounced on the legal issues raised by the defence. Eight were against J. and the one dissident, Lord Porter, based his decision, not on the principles underlying the judgment of his colleagues, but on what he considered a misdirection by the trial judge and the inability of the

House of Lords to order a new trial. See further under TREASON.

Joyson-Jinks, Sir William, see BRENTFORD, VISCOUNT.

Juan, Don, see JOHN OF AUSTRIA.

Juan de Fuca, Strait of, connects Puget Sound with the Pacific Ocean, and separates Vancouver Is. on the N. from the state of Washington on the S. It is about 90 m. long and 13 m. broad, and contains sev. is., one of which, San Juan, was awarded to the U.S.A. in 1872.

Juan de la Cruz, St., see CRUZ.

Juan Fernandez, group of volcanic is. and an islet, belonging to Chile, prov. Aconcagua, which are named Mas a tierra (landward), 13 m. long and 4 m. wide, consisting of rugged rock with rich vegetation, Mas a fuera (outer), Santa Clara or Goat Is., and E. Zunque, situated about 380 m. W. of Valparaiso. They were discovered in 1572 by Juan Fernandez, who introduced goats and European plants on them. On the N. side of the inner is. is Cumberland Bay, where Alexander Selkirk lived in solitude for four years, which incident is supposed to be the basis for Defoe's *Robinson Crusoe*. The is. are now used as penal settlements.

Juan-les-Pins, small holiday resort in the Alpes, Maritimes, France, in the com. of Antibes. Pop. 1000.

Juan Manuel, see MANUEL, DON JUAN. Juarez, Benito Pablo (1806–72), Mexican statesman, b. at San Pueblo Guelatao, Oajaca, of Indian parentage. Appointed a judge of the civil court in 1842, he became governor of the state of Oajaca in 1847, greatly improving the provincial condition during his term. He was exiled from Mexico in 1853, but returned two years later and joined Alvarez and the revolutionists. Elected president in 1858. He retained this position till his death, and his vigorous and liberal policy was of great benefit to the nation. See lives by G. Baz, 1871; U. L. Burke, 1891; C. Juarez, 1907. There is a drama on J. by F. Werfel, *Juarez und Maximilian*, 1911.

Juba, one of the chief rivs. of E. Africa, formerly the boundary between Brit. and It. E. Africa. (See JUBALAND.) It rises in the N., flows E. and S.E., then S., finally draining into the Indian Ocean. Length over 1000 m.

Juba I., king of Numidia, an ally of Pompey, whom he supported against Caesar. He was defeated at Thapsus in 46 B.C., and committed suicide.

Juba II., son of the preceding, made king of Numidia about 30 B.C., and transferred to Mauritania in 25 B.C. by the Emperor Augustus on Numidia being made a Rom. prov. He was noted as an historical and general writer and wrote works on painting, botany, grammar, the theatre, etc., and hist. of Rome, Africa, Assyria, and Arabia, none of which are extant.

Jubal, or Jabal, son of Lamech and Adah. In Gen. iv. 21 he is recorded as the inventor of the harp or lyre, and hence the discoverer of musical science.

Jubaland, prov. of It. Somaliland, formerly a region of Brit. E. Africa, ad-

joining the Juba R. On July 15 1924 by treaty with Italy, Great Britain agreed to cede the Juba R. and a strip from 50 to 100 m wide on the Brit. side of the riv. The ratification took place in June 1925 and the boundaries were investigated by a Boundary Commission in 1926-27. The cap is Kismayu which was captured by Brit. forces on Feb. 15 1911 in the Second World War. Ostrich feathers, ebony gums and manilla fibre are among the prin. exports. There is a steamship service on the Juba R. from Kismayu to Baidera.

Jubbulpore, see JABALPUR

author was a rigid Pharisee of the tune of John Hyrcanus (137-107 B.C.), and in this work he rewrites the books of Genesis and Exodus, adding a commentary with the object of furthering the views of his party. In entire opposition to the Hellenist party the Pharisaic writer draws a sharp line of demarcation between Jews and Gentiles and insists upon the eternal nature of the Law. Before the revelation of the Law to man, it had ever been observed in heaven by the angels and so would be kept throughout eternity. The author sets himself in every way to glorify Judaism and insists on the rigid obser-



QUENCA, ABOVE THE VALLEY OF THE JUCAR

Jubilate, 100th Psalm, used as the second canticle in the morning service of the Church of England. The name signifies Shout ye.

Jubilee, The Year of, was a peculiar custom among the Hebs., in which every fiftieth year all land was restored to those original owners who had lost it within that period. All who through poverty had had to hire themselves out were released from their bondage, and all debts were remitted (Lev. xxv). The jubilee was proclaimed at the close of harvest, on the tenth day of the seventh month, the day of atonement when the *yobel* (horn) was sounded. The Rom. Catholics have borrowed this word from the Hebs. in their celebration of ordinary or extraordinary jubilees. The first jubilee was inaugurated by Pope Boniface VIII in 1300, when he issued a bull granting plenary indulgence to all pilgrim visitors to Rome, should they fulfil certain conditions.

Jubilees, The Book of, apocryphal book of the O.T., known also as Little Genesis, The Apocalypse of Moses, The Testament of Moses, and The Life of Adam. The

vance of its ceremonial. The work receives the name B. of J. because it calculates periods of time in jubilees, periods of seven times seven years with one year added at the end of that time, and lays stress on the mystical importance of the exact calculation of weeks and jubilees with the ever recurring number seven. The work was written in Heb., but was early trans. into Gk. and thence into Lat. and Ethiop. See C. Albeck, *Das Buch der Jubilaen und die Halacha* 1930.

Juby, Cape, on the W. coast of the Sahara Africa, a low sandy point opposite the is. of J. ucrteventura, which is one of the Canary Is.

Jucar, or Xucar, Sp. riv. in New Castile and Valencia rising in the Sierra Albaracin. It is about 300 m. long, and follows a circuitous course, irrigating rice and other plantations, and entering the Mediterranean at Oullera. On its banks are the tns of Quenca, Alarcon, Alcala, Albinque, and Algesmes.

Judæa, region in the S. of Palestine occupied by the Jews who returned from the Babylonian exile during the periods of Persian, Gk. and Rom. supremacy. Its

limits varied at different times. Josephus says (*Bell. Jud.* iii. 5) that it extended from Annath, called also Boreos, on the N. to the vil. of Jordan on the S., from Joppa on the W. to the Jordan in the E. St. Luke, however, frequently uses the title to include the whole of W. Palestine. In the time of Herod Idumaea was included in J. The plateau of J. takes the form of a long zig-zag central spine which throws out a series of steep spurs to E. and W. Modern J. came under Brit. mandatory administration. After the conquest of Palestine by the Brit. Forces in 1917-18 a military administration was set up until July 1, 1920, when a civil one took its place. The Mandate came into force Sept. 29, 1923. Under this was estab. a national home in Palestine for the Jews. The Jewish settlements are grouped in four dists.—J., Samaria, and Lower and Upper Galilee. J. is an agric. country, wheat, barley, olives, etc., being produced. See also ISRAEL; PALESTINE.

Judah, according to the Genesis narrative, was the fourth son of Jacob and Leah, b. at Haran in Mesopotamia. The tribe which bears his name was the most important of the twelve, and from it sprang the house of David. It is now generally believed, indeed, that its prominence in Israelitish hist. is due almost entirely to this king, to whom is attributed the union of clans, signified, according to the ethnic interpretation now so popular, by the incident of J. and Tamar. The cap. of Judah was Hebron, and its terr. stretched from Jerusalem on the N. to the ter. of the Amalekites on the S., and from the Dead Sea on the E. to the Mediterranean on the W. Jerusalem was taken by David, and formed a new cap. Under David the kingdom of J. and Israel attained its greatest extent. On the death of Solomon this kingdom fell into two parts: J. to the S. and Israel to the N. By the middle of the eighth century the Assyrian, had made serious encroachments upon the N. Kingdom (Israel), and it was only with their assistance that King Ahaz of J. succeeded in defending himself against Israel and Syria (or the Princes of Damascus). He, as well as his successor Hezekiah, paid tribute to the Assyrians. In 722 the Kingdom of Israel was destroyed. The kingdom of J. was practically destroyed in 597, when Nebuchadnezzar carried off King Jehoiakim with 10,000 of the prin. inhabitants, including Ezekiel, to Babylon.

Judah ben Samuel Ha-Levi (c. 1045-1140), Sp.-Jewish poet and physician, b. at Toledo in Spain. Over 1100 of his poems survive, 800 being of a secular nature, and 300 religious. His poetry represents both the sufferings and the aspirations of his people. In him the Jewish-Sp. renaissance of poetry reached its loftiest form both as regards subject-matter and nobility of conception, and he may be justly considered the greatest medieval Heb. poet. According to tradition he met his death on a pilgrimage to Jerusalem. Besides his poems, he wrote an apologetical work in Arabic, entitled *The Book of Argumentation and Demon-*

stration for the Defence of the Oppressed Religion, known as *Chozari*. See D. Kaufmann, *Jehuda Halevi*, 1877.

Judaizers, sect in the early Christian Church to which allusion is made in the N.T. writings. They laid emphasis on the necessity of the observance of the law, even by Gentile converts. They soon cut themselves off from the fellowship of the Christian Church and were known as Ebionites. They practised a strict ascetism, having much in common with the Essenes, and considered Jesus as merely one of the prophets, born in a natural fashion. They also showed hatred of the Pauline writings. Their gospel must have been somewhat on the lines of the lost Gospel of the Ebion.

Judaism, religious doctrines and rites of the Jews according to the law of Moses. The earliest form of J. was patriarchal. The anct. J. was the forerunner of Christianity. What is called the Jewish or Judaizing party in the Christian Church exercised great influence in the early days of Christianity. J. was 'so to speak, the vestibule through which alone either Jew or Gentile could enter the temple of Christianity'. Christians generally believe that all ceremonies and sacred personages of the older ceremony were types and shadows of the life and suffering of Jesus (Heb. ix., x.). But after the Jews lost their independence and after the destruction of Jerusalem, the judicial regulations of the Mosaic law ceased to be observed, and in what is called modern J. tradition acquired more authority; in the sixth century arose the Babylonian Talmud, containing the precepts, constitutions, and interpretations supplementing those of the O.T. But none the less modern J. continued to approximate closely to the anct. type of the faith. An essential part of J. is the institution of the Passover (Exod. xii., xiii.), and in its more developed form J. was characterised by a consecrated and hereditary priesthood, the maintenance of a theocratic form of gov., and the recognition of the supreme ruler, whether lawgiver, king, judge, or military leader, as the viceregent of God. See G. Hoenicke, *Das Judentum*, 1908; G. F. Moore, *Judaism*, 1927-30; E. Dhorne, *Evolution religieuse d'Israel*, 1937; K. Thiele, *Kirche und Synagoge*, 1945; J. Parkes, *Judaism and Christianity*, 1918; I. Tabak, *Judaic Lore in Heine*, 1945.

Judas, not Iscariot (John xiv, 22), spoken of in the Lucan list as *Ιουδας υἱος Βαραθ*, which may mean either 'brother' or 'son of James'. He is generally identified with the Thaddeus of Matthew and Mark.

Judas Iscariot, betrayer of Jesus, was the only one of the disciples who did not come from Galilee. His name tells us that he was a Judean of the tn. of Kerioth. All the gospels agree that he was the guide of those who took Jesus, though there are slight differences in the actual accounts. The task of unravelling the motives of his treachery is an impossible one. The gospels associate his action with avarice, but this seems a hardly sufficient explanation

and widely divergent views have been held; some, such as the Gnostics in ancient times and Noack in modern, make his action in hastening the Atonement a praiseworthy one. Others hold that he desired to test Jesus, to see whether he were indeed the Christ. It is more probable that his early love had cooled with his continued avarice, and that, turning to hate, his hasty temper led him to an act followed by all the terrors of remorse. See E. T. Thurston, *Judas Iscariot* (play), 1923.

Judas Maccabæus, son of the priest Mattathias, first to take active measures to stop the persecutions of the Jews by Antiochus Epiphanes. Mattathias died in 166 B.C., and Judas, whose surname has been explained as 'the hammer,' took command of the insurgent forces. He was a great warrior, and his leadership was marked by a series of successes over the Syrian generals, Apollonius, Seron, and Gorgias, and finally over the viceroys Lysias himself. After these successes, Judas made Jerusalem his centre of operations and here he set to work to reorganise the religious system. He restored and fortified the temple, procured new priests, and brought in once more the observance of the whole Law. The Temple was solemnly re-dedicated at the end of the year 165 B.C., three years after its profanation. Religious freedom was granted to the Jews in 162, and the main object of the war was thus achieved, but Judas and many of his friends were resolved now to strive for political independence. Judas, however, was defeated and slain by Bacchides at Eleasa (161 B.C.). The command was then taken by his brother Jonathan. See A. M. Hyamson, *Judas Maccabæus, the Hammer of God*, 1935. See also ISRAEL, *From the Exile to the Revolt of the Maccabees*.

Judas of Galilee, mentioned in Acts v. 37, was, with Sadduk the Pharisee, leader of an insurrection in A.D. 6 or 7, on the occasion of Judaea coming under direct Roman administration.

Judas Tree, name applied popularly to sev. trees, on one of which Judas is said to have hanged himself. It is given most commonly to *Cercis Siliquastrum*, a leguminous tree found in S. Europe and cultivated as a hardy plant in Britain. The purple flowers are papilionaceous, and show before the leaves.

Judd, John Wesley (1840-1916), Eng. geologist, b. at Portsmouth, and entered the Royal School of Mines, joining the Geological Survey staff in 1867. In 1876 he became prof. of geology at the School of Mines, and in 1881 held the same position at the Royal College of Science. C.B., 1895. His chief pubs. are: *Volcanoes* (1881), *The Student's Lyell* (1896), and *Geology of Rutland* (1875).

Jude, The Epistle of Saint, smallest of the general epistles and a canonical book which attained to its position only after much dispute. It does not appear in the Peshito, or Syrian version of the N.T., nor is it quoted by the greater number of Early Christian writers. Eusebius classes it among the Antilegomena, and later St.

Jerome says that its use of the apocryphal Book of Enoch was the reason of its rejection by many. The author speaks of himself as 'Jude, a servant of Jesus Christ and brother of James,' and is usually identified with Judas ('not the Iscariot'), the apostle. His epistle is directed against a kind of false teaching closely allied to Gnosticism, though there is no means of deciding against which particular sect he wrote. This Gnosticism had led to immoral and licentious practices, and against these the writer also warns his readers. His main object is to urge them to do this by contending 'earnestly for the faith once delivered to the saints.' See J. Moffatt, *The General Epistles*, 1928, and J. W. Ward, *St. Peter and St. Jude*, 1934.

Judge. A J. is one who is invested with the power to hear and determine civil and criminal causes, and generally to administer justice by making such orders, decrees, and judgments as to him seem best fitted to subserve that purpose. The status of the highest Js., at any given time, in any given community, has always been one of great dignity; but the functions have differed to a remarkable degree, varying from those above noted to those of a mere juror or J. of fact; and again, judgments have varied from the ancient conception of divinely uttered awards of the Homeric poems to the prosaic though admirable models of scientific precision of the modern High Court J. In ancient codes, as Maine has suggested, the *themistes* (Gk. *Themis*, goddess of justice) or judgments pronounced, whether by a king or priest, in a dispute between individuals, were of so exalted a nature in the vulgar mind that they were not only deemed to be due to divine dictation but took the place of all law-making, and indeed laid the foundation of customary law. In Rome, during the era of the kings, the supreme J. in all cases was the king himself, and civil causes were decided by him in his capacity of *pontifex maximus* (high priest), *jus* and *sacra* (law and sacred law) being for the most part inextricably involved in one another. In the developed Roman legal system the *judez* or J., who was generally a senator or, later, a knight, was a person with the very clearly defined duty of judging an issue submitted to him by the pretor or magistrate in a document called the *formula*. But it was the high status and delegated sovereign authority of the magistrate that invested legal proceedings with weight and solemnity; the *judez* had long since sunk to the condition of a mere arbiter, who could not exert the force of the state unless empowered so to do by the magistrate, with whom also it lay to declare what the law was in particular cases. In all developed modern systems the highest Js. combine both or all of the above functions: they not only declare the law, even altering or improving it on occasion (Bentham's 'judge-made law'), but they set in motion the machinery for enforcing their judgments. In England the term 'judge' is confined to Js. of the Courts of Appeal, High Court Js. and Co. Court Js.; Js. of Bor. Courts are

called 'recorders'; of Metropolitan Police Courts 'stipendiary magistrates'; and of Petty Sessions 'justices of the peace.' The Lord High Chancellor, the head of the Eng. judicial system, appoints the *puisne* (i.e. junior from Fr. *puisne*, meaning literally 'later born') Js., of whom there are 6 in the Chancery Div. (of which Div. the Lord Chancellor is titular president), 17 in the King's Bench Div., excluding the Lord Chief Justice (who, besides being president of the King's Bench Div., is also a member of the body of Lords of Appeal in Ordinary) and 5 in the Probate, Divorce, and Admiralty Div. The Js. of the highest Court of Appeal, the House of Lords, regarded as a tribunal, are the Lord High Chancellor, Ex-Lord High Chancellors, 7 Lords of Appeal in Ordinary, the Lord Chief Justice, the Master of the Rolls, and the President of the Probate, Divorce, and Admiralty Div. There are 5 Lords Justices, who form the penultimate Court of Appeal. All *puisne* Js. are knighted on appointment, but are addressed as 'My Lord' or styled 'Mr. Justice ____'. The Lord Chief Justice is merely the titular head of the King's Bench Div., but, since the institution in 1908 of the Court of Criminal Appeal, he presides over that Court. The Lord Mayor and Aldermen are titular Js. of the Central Criminal Court (Old Bailey), but its regular Js. are the Recorders of London, the Common Serjeant, and the 2 Js. of the City of London Court. The Co. Court Js. number 57. *See also* CIRCUITS, INFERIOR COURTS.

Judges in the U.S.A.—Each of the 48 states of the U.S.A. has its own judiciary enforcing and construing its own state laws. Compared with the Brit. system, the judiciary is rather complicated, and one outstanding difference is that all judicial offices are filled by election by the people. In many states candidates for judicial positions are nominated by political parties and their names placed on the political ballots. In a few, like New York, for the higher judiciary an endeavour is made to take the Js. out of politics by nominating an agreed 'ticket' of eminent men. Each tn. of any size elects a police J. to try cases for minor infractions of the municipal laws. Each collects a co. J. to try cases of a higher degree. Then there are elective Js. who hear the more important criminal cases or the bigger civil suits. Most of the states have a set of appellate Js. who hear appeals from those courts. And, finally, most states have each a supreme court, which is the last tribunal of resort in the commonwealth. The terms of office for which Js. are elected vary in different states from four to seventeen years.

The U.S.A. Js. deal only with the Federal laws of the nation as a whole. They are named by the president of the U.S.A., hold their positions for life, and have to be confirmed by the U.S.A. senate. The lowest order of these Js. is known as the Federal Dist. Court Js. Next above them are the U.S.A. Circuit Js. The whole country is divided into ten circuits, and there are thirty-nine of these Js.

The U.S.A. Circuit Courts of Appeal consist of the Dist. and Circuit Js. in the respective circuits, together with a Justice of the U.S.A. Supreme Court, who is assigned to that circuit. And, finally, at the apex of the entire judicial system of the country, the court of absolute last resort is the U.S.A. Supreme Court composed of a Chief Justice and eight Associate Justices. This court is so powerful that it can even abrogate a law enacted by the Congress, if it finds the statute in contravention or conflict with the U.S.A. Constitution. *See* R. C. Ensor, *Courts and Judges in France, Germany, and England*, 1933; E. Jenks, *The Book of English Law*, 1936.

Judge Advocate-General (Chief Judge Martial), army official appointed on the recommendation of the Lord Chancellor and responsible to that authority, but prior to 1948, appointed by the Crown and responsible to the secretaries of state for war and air. The responsibility for acting or not acting on his advice in particular cases still remains with the secretary of state concerned. His present title, as recommended by the Lewis Committee on army and air force courts-martial—is Chief Judge Martial and he enjoys a status and remuneration not less than that of a *puisne* judge of the High Court. Formerly the duty of the J. A. G. was to advise on the legality of proceedings at courts-martial, with power to revise sentences passed by such courts, and upon other matters relating to the army. The former J. A. G.'s dept., conformably to the Lewis Committee's recommendations, has been reconstituted so as to separate the functions of pre-trial advice and of prosecution from functions of a judicial character. The former functions are no longer the responsibility of the J. A. G. (or Chief Judge Martial), but have been transferred to directorates of legal services in the War Office and Air Ministry. The J. A. G. is no longer responsible for the collection of evidence against, and the prosecution of, war criminals. These duties, in so far as they still continue, are carried out in the directorate of the War Office to which the J. A. G.'s previous military dept. was transferred in Oct. 1948. The office of J. A. G. was originally held by a privy councillor, who was also a member of the gov., but the functions of the office were in 1892 assigned to a judge of the High Court. That arrangement not proving satisfactory, the duties were assigned to a barrister at a salary of £2000 a year. The changes of 1948 as recommended by the Lewis Committee (which endorsed similar recommendations of the Oliver Committee of 1938) are in effect a reversion to the arrangement of 1892. There is an analogous official to the J. A. G. at the Admiralty—styled the Judge Advocate of the Fleet (q.v.)—to advise on matters of naval law. *See also* COURT-MARTIAL.

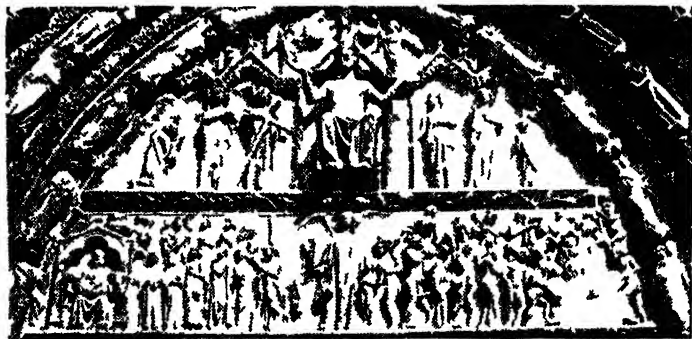
Judge Advocate of the Fleet. Appointment usually given to a practising barrister. Under the Naval Discipline Act of 1866, amended by the Act of 1884, courts-martial consist of from five to nine officers of defined ranks who try the cases and make their judgments. In theory the.

Judge-Advocate sits with them not as an equal judge or with any right to interfere with their decisions, but rather as a legal adviser and as a representative of the king empowered to delay action in certain cases. In practice he is usually represented by an appointed barrister, who is in attendance and acts for him. The Judge Advocate's position becomes important when a death sentence is passed during peacetime as, though he does not constitute a Court of Appeal, and may not himself override the decision, he can, if the case warrants it, advise the king to grant a royal pardon.

Judges, The Book of (Heb. שופטים *sophetim* cf. Carthaginian *sufites*), second book of the Former Prophets of which the main section is a continuation of the

of this section is due to a Deuteronomistic editor who provided the setting but did not alter the text. (3) The last five chapters, xvii-xxi, consist of various incidents of the same period, but in no way connected with the earlier narratives. See W. O. Oesterley and F. H. Robinson *A History of Israel*, 1932.

Judgment, in law, the decision of a court of law in any cause heard therein. Final J disposes of the case, subject to any right of appeal. An interlocutory or interim J, such as the grant of an injunction (*q.v.*) in the Chancery Div. disposes only of a particular issue, leaving the merits to be adjudicated at some other time or as in the grant of a mandamus (*q.v.*) in another and inferior court (*q.v.*). A J binds only the parties to the particular case. A J



D. McLeish

THE LAST JUDGMENT

One of many similar representations of the Last Judgment in France. This appears over the main portal of Bourges Cathedral.

hist. of the Israelites from the death of Joshua to the death of Samson. The book may be divided into three parts. (1) Chs. 1-11 is a synopsis of the conquest of Canaan earlier in date than the Book of Joshua from which it varies by making the action of the various tribes more independent. (2) The main body, chs. 12-21, present an apparently consecutive and chronological account of the gov. of Israel under six major and six minor judges. The scheme of the cycles is explained in ch. 11:18-19, which shows the recurring events as they occur in the case of each judge. 'The children of Israel did that which was evil in the sight of the Lord, and they forsook the Lord, and the anger of the Lord was kindled against Israel, and he delivered them into the hands of spoilers, and they were sore distressed. And the Lord raised them up judges, and saved them out of the hands of their enemies all the days of the judge. And it came to pass when the judge was dead that they returned and corrupted themselves more than their fathers.' The final redaction

summons is one which follows non-compliance with a default summons by a debtor who in the Court's opinion, can but will not pay his debt. It asks the court to make an order for payment subject on further default to commitment to prison.

Judgment, in philosophy broadly the faculty which enables a person to arrive at the truth or at what any particular school of philosophy may consider to be the truth. In ethics, it denotes the faculty of distinguishing between right and wrong conduct. In metaphysics a proposition which, by its mere suggestion, is conceived as necessary, is an *a priori* J., and if derived from no other than another necessary proposition it is called an absolutely *a priori* J. These terms are used in the Kantian philosophy in the differentiation between knowledge gained by experience and *a priori* knowledge. In Kant's philosophy the Js of experience are never truly and strictly universal, but possess only the comparative universality of induction, i.e. experience can only tell us that, so far as our observation goes, a

particular result will follow from a particular combination of circumstances. But necessity and strict universality are sure criteria of a *priori* knowledge. Hume arguing from this position had asserted that necessary and universal J.s. could not exist as valid knowledge by reason of their very necessity and universality, but were rather the effect of an association of ideas. Kant, however, accepting the validity of universal J.s., contends that they do in fact supersadd something to our sum total of knowledge, and after arguing the possibility of passing J.s. going beyond the range of experience from the otherwise very impossibility of experience itself, goes on to show the bearing of such *intellectual* J.s. upon the supersensible world or the ultimate problems of metaphysics—God, freedom, and universality.

Judgment, The Last. Christian eschatology deals in a particularly clear manner with a final resurrection, and the doctrine of the resurrection of the body finds a place in the creed of the Christian Church. This is closely connected with the article of the L. J. The Nicene Creed says that Christ 'shall come again with glory to judge both the living and the dead.' This belief is founded upon: (1) Many parables of Christ recorded in the Gospels, such as those of the wedding-feast of the king's son, the ten virgins, the talents, and the sheep and goats. (2) Other statements of our Lord, such as that contained in John v. 28, 29. (3) The clear words of St. Paul (2 Cor. v. 10), 'we must all appear before the judgment-seat of Christ; that every one may receive the things done in his body, according to that which he hath done, whether it be good or bad.' (4) The account given in the apocalypse of St. John (Rev. xx. 12 ff.). Briefly, the general Christian idea of the L. J. is that when the end of the world comes, those who have died before that time will rise again with their own bodies, though these will be spiritualised as was Christ's body after His Resurrection. Then all, both living and dead, will be judged by Christ. The judgment is not to be considered as arbitrary but as perfectly just and in accord with Christ's work as Saviour—'out of thine own mouth will I judge thee.'

Judicature Acts. these comprise the J. A., 1873, 1874, 1875, 1877, 1878, 1879, 1881, 1883, and 1884, and the Appellate Jurisdiction Act, 1876. The main purpose of these Acts was to create a supreme tribunal out of the then existing courts (see COMMON PLEAS, EXCHEQUER, CHANCERY COURT, and KING'S BENCH) with as little change as might be consistent with the object of administering in the new court complete legal and equitable relief, and to simplify as far as possible the procedure therein by abolishing the extraordinary technicalities of old forms of action, such as trover, trespass on the case, and by other provisions designed to obviate the necessity for adherence to archaic terms of art. Under the J. A., the Supreme Court of Judicature consists of two branches, the Court of Appeal and the High Court of Justice; while the High Court is composed of the King's Bench, the

Chancery, and the Probate, Divorce, and Admiralty divs. Bankruptcy and winding-up work and the judicial functions of the Railway Commission are assigned to particular judges of the High Court (see also CHOSE IN ACTION as to assignments). The Acts endeavour as far as possible to assimilate the procedure in the King's Bench Div. and the Chancery Div. of the High Court. See under CHANCERY, EQUITY.

Judicial Committee of the Privy Council. Like the ultimate Court of Appeal in civil cases—the House of Lords or Lords of Appeal in Ordinary—the J. C. of the P. C. has really nothing to do with the body of which it is in theory a committee. In its present form it dates from 1833, when its constitution was strengthened by the addition of colonial and Indian judges, in order to meet the difficulty arising from the difference between Eng. laws and those of the colonies. As long ago as 1580 the right of appeal to the King in Council was recognised in the case of the Channel Is. The Lord President of the Council is technically the head of the J. C., and there are a number of judges holding other offices who, as privy councillors, are technically members. In practice a panel is usually drawn from the following: the Lord Chancellor, the seven Lords of Appeal in Ordinary, and, prior to the Indian Independence Act, 1917, certain judges of Indian experience who sat for the hearing of Indian appeals only. There are also a number of judges of the courts of the Dominions overseas who are members, though they do not often sit. In theory the Judicial Committee does not pronounce judgment, but merely advises the sovereign to give judgment in a particular way, a harmless fiction that finds its parallel in the conventional duty of the members not to disclose their differences of opinion in submitting their 'advice' to the Crown. Appeals in criminal cases can only be brought to the Judicial Committee by special leave of the Committee itself. The Committee also hears appeals from the eccles. courts and from the prize courts, and in this connection provision is made for the attendance of prelates and naval experts, respectively, as assessors.

As regards the dominions, appeals in ordinary litigation from overseas courts lie as follows: *Canada*, appeals from the prov. courts lie to the Supreme Court of Canada or to the Judicial Committee at the option of the appellant; but further appeal from the Supreme Court to the Judicial Committee can be granted only by special leave of the Judicial Committee, and not by leave of the Supreme Court of Canada. *Australia*, a right of appeal lies from the State Courts direct to the Judicial Committee or to the High Court, but no further appeal from the latter without special leave of the Judicial Committee. Under the Commonwealth Act, there can be no appeal from the High Court to the Judicial Committee on certain constitutional questions relating to the powers of the Commonwealth or the states, except by certification of the High Court. *New Zealand*, appeals lie as of

right to the Judicial Committee from the Court of Appeal subject to a limitation as to the minimum amount at issue. Appeals may also lie by leave of the Court of Appeal or the Supreme Court. *Union of South Africa*, there is one Supreme Court for the Union with divs. for the four provs. and an appellate div. hears appeals from the prov. divs. There is no right of appeal direct to the Judicial Committee from the prov. divs., and appeals from the appellate div. lie only by special leave of the Judicial Committee. Appeals from the Union to the Judicial Committee have been rare in the past three decades. *Irish Free State* (and *Eire*) at one time appealed to the Judicial Committee from the Supreme Court lay only by special leave of the Judicial Committee. But do Valera's Gov. abolished appeals to the Judicial Committee. Appeals from the Dominions number on an average no more than thirty a year and petitions for special leave to appeal are more often refused than granted.

Judicial Factor, see FACTOR, JUDICIAL.

Judicial Separation, decree for J. S. or divorce *a mensa et thoro* is a remedy for certain matrimonial offences which, unlike a decree of dissolution of marriage (divorce *a matrimonii vinculo*), does not leave the parties at liberty to marry again. A J. S. may be obtained by either spouse on these grounds: (1) Adultery, (2) cruelty; (3) under section 16 of the Matrimonial Causes Act, 1857, for desertion without cause for two years or upwards; (4) for statutory desertion under section 5 of the Matrimonial Causes Act, 1881, that is, where the respondent to the petition for J. S. has failed to obey a previous order of the court for restitution of conjugal rights. Against a husband J. S. may also be obtained on the ground of sodomy or an attempt to commit that offence. Acts of cruelty to children may amount to cruelty to the wife, when committed by the husband in the presence of the wife and for the purpose of giving her pain (*F. v. F.*, 38, T. L. R., decided in 1922). Desertion has only been a ground of petition for divorce or J. S. since the Matrimonial Causes Act, 1857, for in the eccles. courts it was only recognised as a ground for restitution of conjugal rights.

Where a decree is pronounced against a wife for adultery, and she has property in possession or reversion, the court may compel a settlement of so much of the property as it deems reasonable for the benefit of the husband or the children of the marriage. The petitioner for J. S. must, as in the case of a suit for dissolution, jactitation (*q.v.*), and nullity, file together with the petition an affidavit stating that there is no collusion (*q.v.*) or connivance between the two spouses. Where a wife gets a J. S. she may apply for petition for permanent alimony (financial support from the husband) provided she gives the husband eight days' notice prior to her application. The court, even before the decree for J. S. has been made final, may make such orders as it thinks fit for the custody, maintenance, and access, and education of the children of

the marriage, together with provision for their support when the final decree is pronounced. Incidentally to these purposes the court has power to vary the terms of settlements of property on the respondent. The defences to a suit for J. S. are as in a suit for dissolution: (a) Connivance at adultery; (b) condonation of adultery; (c) collusion; (d) adultery, desertion, etc., not proven. Connivance, generally speaking, means acquiescence in adulterous intercourse by wilful abstention from taking any steps to prevent it. Cruelty and desertion, however much they may induce a wife to become unfaithful, do not amount to connivance in law. Condonation implies a conditional forgiveness with a full knowledge of all antecedent guilt, the condition being that the offence shall not be repeated, or, as it has been expressed, a complete blotting out of conjugal offence followed by cohabitation with full knowledge of all the circumstances. There is no narrow definition of 'collusion,' but it exists where the originating of the petition is founded on an agreement between the parties or their agents. A suit for J. S. may be compromised by agreement, and neither party is at liberty to repudiate the agreement, except on the ground of fraud, or of such an error in its terms that they ought not to be bound by it. This principle was confirmed in the Court of Appeal in 1922. (*See Brown and Watts on Divorce*, 10th ed., 1921.) Where the Court grants the decree, it is of course no longer obligatory for petitioner to cohabit with respondent. The grant of the decree does not bar presentation of a petition for divorce upon substantially the same facts.

Judith, O.E. poem, probably of the ninth century, of which only fragments remain, and of which the author is unknown. Its theme is taken from the apocryphal book of J.; and the treatment is vivid in the extreme. The event is, of course, treated as though it were contemporary hist. and the action throughout is assimilated to Saxon methods. The metre is the ordinary A.-S. alliterative verse, but it is varied towards the end by lines of extra length.

Judith, *The Book of*, one of the best known of the books forming the Apocrypha. It tells how the city of Bethulia was besieged in the time of Nebuchadnezzar, by his general, Holofernes, and how the Jewish inhabit. were in despair. They were encouraged, however, by a widow named Judith, who exhorted them to trust in God since their tn. was free from idolatry. She then went forth to the camp of Holofernes, who was captivated by her beauty. At the banquet he drank deeply, and when left alone with him, Judith took advantage of this and slew him. She then brought his head to her city, and her success roused the enthusiasm of her townsfolk, who rushed out in force and entirely scattered the besiegers. The story has always been recognised as unhistorical, for it is perfectly saturated with Pharisaism. It is now generally dated about the time of Pompey's march on Jerusalem in 63 B.C., but some place it

earlier—about the beginning of the first century B.C. Bethulia is, of course, equivalent to Jerusalem.

Jūdō, see under JU-JITSU.

Judson, Adoniram (1788-1850), Amer. missionary, b. at Malden, Massachusetts. After graduating at Brown Univ. (1807), he studied at the Andover Theological Seminary and became a Congregational minister. He sailed for Burma in 1812, and on the voyage joined the Baptist Church. He and his wife settled in Rangoon, but subsequently moved to Ava, where J. was imprisoned during the Burmese War. His trans. of the Bible into Burmese was completed in 1833, and was followed by a *Burmese-English Dictionary*. See lives by his son E. Judson, 1883; F. Wayland, 1851, and R. Middle-ditch, 1859; also Honoré Morrow, *The Splendour of God*, 1930.

Juel, Niels (1629-97), Dan. admiral, b. at Christiania. He served under Van Tromp and De Ruyter fighting in the war with England (1652-54). He subsequently took part in the Swedo-Dan. wars (1658-60), and in the Scanian war (the Scania was a Swedish political party) when he was appointed to the supreme command in 1673. He was victorious at Jasmund (1676) and at the bay of Kjöge (1677), when he distinguished himself by his brilliant tactics.

Jugdalak, or Jagdalak, vil. and pass situated between Kabul and Jalalabad, Afghanistan, memorable for a massacre of the Brit. in 1842.

Juggernaut, or Puri, tn. situated on the Orissa coast, Bengal, India. It is one of the holy places of India, and in addition to its having for a number of centuries preserved the Golden Tooth of Buddha, it is famous for a temple built in honour of Vishnu, and in which was his idol. The name given to this idol was Jagannath or J. ('lord of the world'), and it was the representation of a god of the people. Sev. festivals are celebrated in his honour each year, the chief one being that of the car. The ceremony consists in drawing the god on a huge car to a place near by, the journey extending over sev. days. Large numbers of pilgrims assemble in the tn. for this purpose, and as some are killed during the journey, the belief has become current that it is customary for them to throw themselves under the car. This, however, has been contradicted.

Juggling, is very much the same as conjuring, prestidigitation, and legerdemain.

'Juggler' is the Eng. form of the Lat. *joculator* (jester), whilst *jongleur* (Fr.), which was used in the Middle Ages of a strolling singer or minstrel, is the Fr. equivalent. J. can be traced back to the days of the anc. Chaldees and Egyptians. The magicians of Pharaoh, Jannes and Jambres tried to outdo the miracle of Moses; and Zoroaster, who reformed the Magi, was famous for his marvellous feats. Equally so was Paracelsus of a later day (1493-1541). The Gks. and Roms. were no strangers to sleight of hand, and among the latter the so-called *acclabularii* performed wonderful tricks with tiny pebbles, whilst *ventilatores* (knife-throwers) and

pillarii (ball-players) were professional entertainers in the Imperial days. Massenet's pathetic opera, *Le Jongleur de Notre Dame*, gives an idyllic picture of a wandering J. in the great monastic days, and in olden times no country fair was complete without its conjurers and tricksters, and no vil. was for long without its afternoon's entertainment in the form of the knife-swallowings and ball-tossings of some needy and itinerant Merry-Andrew. In 'Hocus Pocus' *Anatomy of Legerdemain* (1631) there is mention of 'the greatest juggler in England,' who 'used the assistance of a familiar; he lived,' we are told, 'a tinker by trade, and used his feats as a trade by the by; he lived . . . always betattered, and died, for ought I could hear, in the same estate.' Jonas, Androletti, and Carloti enjoyed high reputations as conjurers in Paris during the eighteenth century, and about 1783 the It. Pinetti, began to give his sensational exhibitions of legerdemain. In modern times the Indians and Chinese have surpassed W. peoples in the ingenuity of their impostures and in the marvellous skill with which they juggle with fire, rings, knives, balls, and swords—conjuring properties which seem more especially to form the stock-in-trade of the professional juggler. See CONJURING; DIVANT, DAVID.

Juggs, see JOUGS.

Juglans, chief genus of Juglandaceae, contains eight species, all of which are found in N. lands; it is closely allied to *Carya*, the hickory trees. *J. regia*, the walnut, is the best-known species of the genus; it is a tree of handsome appearance, with wood used for cabinet making, while the fruit is edible and nutritious and the seeds yield oil. The other species have also edible fruits, and *J. nigra* produces valuable wood.

Jugo-Slavia, see YUGOSLAVIA.

Jugular Veins, *Ths.* Their number varies in different individuals, but the four chief ones are: (a) the *external jugular*, which can usually be seen through the skin and muscle on the side of the neck. It runs in a line drawn from the angle of the jaw and eventually pierces the deep fascia above the middle of the clavicle and joins the *subclavian*. It receives its blood from the scalp and deeper parts of the face. (b) *Anterior jugular*, smaller, runs about half an inch from the middle line of the neck. (c) *Posterior jugular*, collecting from the neck. (d) *Internal jugular*, uniting at the root of the neck with the subclavian to form the *vena innominata*; its blood is obtained from the superficial parts of the face and the deeper parts of the cranium. 'Cutting the throat' usually results in injuries to one or more of these veins. A severance of the *internal* is critical, and in the case of div. of any of the J. V. death may follow from the admission of air to the cardiac cavities.

In the development of the embryo the *primitive jugular* represents the *anterior cardinal* of the two longitudinal vein trunks formed by the junction of veins from body segments. It receives fewer

segmental veins than the *posterior cardinal* as the first site of the heart is in that portion which later becomes the neck of the embryo.

Jugurtha (d. 104 B.C.), Numidian king, natural son of Mastanabal, and grandson of Masinissa. He was brought up by his uncle, Micipsa, who left his kingdom (118) to J. and his two sons, Hiempsal and Adherbal. J., greedy for supreme authority, determined to get rid of his cousins, and assassinated Hiempsal. The Roman senate decreed that the kingdom should be equally divided between J. and Adherbal, but in 112 the former had Adherbal put to death. War was now declared between Rome and Numidia, J. having attacked the It. inhabs. of Cirta. J. drove the Rom. troops out of his kingdom (110), and in the following year fresh troops were sent from Rome, under Quintus Metellus, who was victorious at Nuthul. Metellus was superseded by Marius in 107: J. now made an alliance with his father-in-law, Bocchus, and on their united forces being defeated, withdrew into the deserts of the interior. Bocchus made his peace with Rome by betraying his relative, and delivered J. up in chains to Sulla, the questor (106). Marius led his prisoner in triumph through Rome, and afterwards threw him into a dungeon to die. The hist. of the Jugurthian War was written by Sallust.

Ju-jitsu, Jiu-jitsu, or Ju-jutsu are various ways of spelling the Eng. form of a Jap. word signifying the national art of self-defence without weapons. The word means '*gentle art*,' or is sometimes trans. as 'to conquer by yielding,' from the Jap. word *ju* (pliant); the latter interpretation is certainly a good description of the art, whatever its etymological verity. The art was known and practised as early as the seventh century B.C. Until the break-up of the feudal system in Japan, J. or as it was also called, *Taijutsu* or *yawara*, was a secret art practised only by the *samurai*, the warriors of Japan. By means of this knowledge they asserted their superiority over the common people even when deprived of their swords, which they alone were allowed to carry. Since the change in the constitution and methods of Japan took place, however, the art has been taught to all who wish to learn. It is one of the compulsory subjects in the army, the navy, the police, and in most schools. At the beginning of the twentieth century J. began to attract the attention of other nations. Schools were started in Europe, the U.S.A., and in Great Britain. Inazo Nitobe says that it is 'the application of the anatomical knowledge to purposes of offence and defence, differing from wrestling because strength is not required, and from other forms because no weapons are needed. Its feat consists in clutching or striking such part of an enemy's body as will render him numb and incapacitated for resistance. The object is not to kill, but to incapacitate for action for the time being.' The anatomical knowledge to which Nitobe refers is undoubtedly much greater among Jap. than among Europeans. In boxing, for instance, we recog-

nise such points as the solar plexus and the point of the jaw as being particularly vulnerable, and the peculiarity of the 'funny-bone' is universally known. But the Jap. J. experts know many more points which cause temporary paralysis of the parts affected when struck, among which may be mentioned the arm-pit, the ankle and wrist-bones, the tendon running down from the ear, the Adam's apple, the nerves of the upper arm, etc. If J. has to be practised in serious extremities, and all the combatants' resources are called out, or if the match taking place is very serious, any hold is permissible, and a broken or badly sprained limb is the least that may be expected by the defeated. In practice and the teaching of the art such extreme measures are of course undesirable, and when one of the combatants finds himself in a position in which he could be disabled if he resisted, he signals defeat by striking his hand on the floor, and a fresh bout is begun.

In this may be seen the essential difference between wrestling and J.; in the latter there is no set position into which the defeated competitor must be placed, as his arm or leg may be broken in any position. In this respect J. may be compared to the *pancratium* of the Olympic games, when one competitor had to admit defeat. Apart from these methods, an art of throwing has made a great development in recent years, and it is called *Jūdo* instead of J. The aim of *Jūdo* throws are to kill or disable the assailant. But with a few lessons on breakfall, the practice can be made quite safe and most enjoyable sport. It is a prevalent error that most of the 'falls' and 'holds' in J. are extraordinarily complicated, and need to be learnt in a mechanical fashion. As a matter of fact, a few simple principles govern all the practice of the art. Most of the J. holds are fouls from a wrestling point of view, and the blow, which is used in the former science, is barred in the latter. See H. J. Hancock, *Japanese Physical Training*, 1904; H. H. Skinner, *Jiu-jitsu*, 1904; K. Uyenishi, *Ju-jitsu*, 1906; H. J. Hancock, *Complete Kano Ju-jitsu* (*Judo*), 1905; K. Saito, *Ju-jitsu Tricks*, 1905; Mrs. H. Watts, *Ju-jitsu*, 1906; J. Kanō, *Judo*, 1937.

Ju-Ju, word used by the Africans of the Guinea Coast to denote any kind of fetish. It may have been adopted from Fr. *Joujou*, a toy, or corrupted from Mandingo *gru-gru*, a charm. The word, besides denoting the shrine, idol, or charm, in which a spirit was supposed to dwell, was applied to the spirit itself, and hence loosely to witchcraft, savage rites, and customs characteristic of the negroes. The 'Long Ju-Ju' of the Nigerian Aros was a sacred shrine where human beings were sacrificed until the Brit. interfered (1901-02). See also FETTERISM. See P. A. Talbot, *Peoples of Southern Nigeria*, 1926; W. R. Crocker, *Nigeria*, 1936.

Jujube, name of sev. plants of the genus *Zizyphus* in the family Rhamnaceae, which consists of shrubs and small trees found in the tropics. Many of the species bear edible fruits, and these are sometimes

dried and used as sweetmeats. *Z. vulgaris*, the common or Fr. J., flourishes in the E. and produces a small red or yellow fruit; *Z. Lotus*, the lotus, bears a small, sweet fruit said to be the lotus fruit known to antiquity; *Z. Spina-Christi*, Christ's Thorn, is fabled to have yielded the crown of thorns; the thorns are modified stipules. The confection known as J. is made of gum arabic or gelatine, glycerine, and pure sugar, and is flavoured like the J. fruit.

Jujuy: (1) Prov. of Argentina, situated in the N.W. of that republic, and having Bolivia on its N. and W. sides. Its area is 16,700 sq. m. Part of the surface is mountainous, rising to a height of over 15,000 ft. The prin. riv. is the San Francisco with its tribs. The state is rich in mineral wealth, and is a valuable source of revenue. Gold, petroleum, lime, gypsum, lead, iron, and china-clay are found. Agriculture is largely carried on and sugar cane is grown. Fruit grows prolifically and there is a large export trade in oranges. Pop. 166,700. (2) Cap. of the above prov., on the railway from Buenos Ayres to Bolivia; possesses a national college and a school for girls. Pop. 20,000.

Jukes, Joseph Beete (1811-89), Eng. geologist, b. at Sumner Hill, near Birmingham, and educated at St. John's College, Cambridge. He had studied geology under Sedgwick, and was appointed geological surveyor of Newfoundland (1839-40). In 1842 he joined an expedition to Torres Strait, New Guinea, and the E. coast of Australia, and on his return to England in 1846 was sent by the Geological Survey of the United Kingdom to survey N. Wales, becoming local director of the survey in Ireland in 1850. He lectured on his subject at Dublin, and pub. a valuable textbook, *The Students Manual* (1857). His other writings include *Excursions in and about Newfoundland* (1842), and *A Sketch of the Physical Structure of Australia* (1850). His writings throw light on the cleavage, the Devonian system, elvans, gypsum columns, Irish limestone, silurian granite, trough-faults, and numerous other subjects of geological interest. His *Lectures* were ed. by his sister, C. A. Browne, in 1871.

Julalpur, see JALALPUR.

Julia, suburb of Ispahan in Persia.

Julia, name of sev. Rom. women of rank, belonging to the gens Julia: (1) Sister of Julius Caesar, the wife of M. Atius Balbus, and the grandmother of Augustus. (2) (d. 51 B.C.) Daughter of Julius Caesar by Cornelia. She married Pompey in 59. (3) (39 B.C.-A.D. 14) Daughter of Augustus by Scribonia. In 26 she married her cousin, M. Marcellus, who died two years later. She then married M. Agrippa, by whom she had five children, Calus and Lucius Caesar, Agrippa Postumus, Julia, and Agrippina. Her third marriage, in 12 B.C., was to Tiberius Nero, who was afterwards emperor. In 2 B.C. Augustus banished her to Pandataria, an is. off Campania, on account of her adulteries, and she was subsequently removed to Rhegium, where she died.

(4) (d. A.D. 28) Daughter of the above, and wife of L. Aemilius Paulus. Like her mother she was notoriously immoral, and was banished by Augustus to Tremena, an is. off Apulia, in A.D. 9. (5) The youngest daughter of Germanicus and Agrippina, murdered by Claudius at the instigation of Messalina. (6) (d. A.D. 59) Daughter of Drusus and Livia, sister of Germanicus, also killed by Claudius at Messalina's instigation.

Juliabona, see LILIBONNE.

Julia Gens, famous patrician family of ant. Rome. It claimed descent from Julius (sometimes called Ascanius), the son of Aeneas and grandson of Venus and Anchises. Julius is supposed to have founded Alba Longa, so that the family came of Alban stock. On the destruction of that city the J. G. was removed to Rome by Tullus Hostilius.

Julia Joza or Transducta, see TARIFA.

Julian (Flavius Claudius Julianus), surnamed the Apostate (331-63), Rom. emperor, b. at Constantinople, being the youngest son of Julius Constantius and Basilina, and the nephew of Constantine the Great. On the death of Constantine in 337, at the instigation of his three sons a terrible massacre took place in which J. and his elder half-brother, Gallus, alone escaped the fate of their kinsfolk. Educated under strict supervision at Nicomedia, until 341, he and his brother were removed to Macellum in Cappadocia. In early life he became greatly attached to Gk. culture, and accepted the Gk. religion with its philosophy. In 353 J. was created Caesar at Milan by the Emperor (Constantius II., whose sister Helena (q.v.) he married). Thereupon J. was entrusted with the government of Gaul, and in 357 won a great battle against the Alemanni at Strasburg. He took up his residence in Lutetia (Paris), wisely administered the laws, and relieved the people of some of the heavy taxes. The emperor, becoming jealous of his increasing popularity, bade him lead his troops against the Persians, whom upon his soldiers proclaimed him Augustus (360). Constantius opportunely died in 361, and J. was universally acknowledged his successor. He now openly declared his apostasy, and proclaimed universal toleration within his realms; but he deprived the church of its former privileges, forbade Christians to teach rhetoric, and in the offices of state gave preference to pagans. Before long, he made great preparations for an invasion of Persia, and marched through Antioch into Mesopotamia and Assyria, until he reached the walls of Ctesiphon (363). He was misled by the treachery of a Persian nobleman who advised him to march inland to meet the forces of Shapur II. His men suffered terribly from thirst and were overcome by the heat. During the battle, J. fell, and as he died, is supposed to have cried out, 'Thou hast conquered, O Galilean.' His extant writings are *Kaisares* & *Imperatores* (a satire in Senecan vein on the Caesars), *Misopogon*, eight *Orations* (being panegyrics on Constantius and the Emperor Eusebia, and Covenants on the philosophy

of the Cynics) and a series of letters numbering upwards of seventy, though the authenticity of some is disputed. His *Karà Xpocriavon*, an attack on Christianity, is lost. See the eds. of E. Spanheim (1696) and F. Hertlein (1875-76); E. Gibbon *History of the Decline and Fall of the Holy Roman Empire*, 1862; Alice Gardner, *Julian, Philosopher and Emperor*, 1895; P. Allard, *Julien l'Apostat*, 1903; and Ibsen's drama (Eng. trans.), 1876.

Julian Calendar, Epoch, see CALENDAR, CHRONOLOGY.

Julianus, Salvius, (b. c. A.D. 100), celebrated Rom. jurist, who lived during the rule of Hadrian and the Antonines. By order of Hadrian, he was entrusted with the work of drawing up the *edictum perpetuum* from the immense mass of laws and pretors' edicts which existed at the time. His other works include *Digestorum Libri XC.*, *Ad Minitium*, and *De Ambiguitatibus Liber Singularis*. He held the position of prefectus urbi, and was twice consul.

Jüllch, tn. in Rhineland, Germany. It is situated on the r.b. of the Roer, eighteen m. N.E. of Aachen and was once the cap. of the duchy of Aix-la-Chapelle (Aachen) but in 1914 became part of Prussia. The name is the Juliaeum of the *Antonini Itinerarium*. It was a fortress in the seventeenth century and was captured by Maurice of Orange in 1610 and a few years later by the Sp. Till 1800, when its works were dismantled, it ranked as a fortress of the second class. It was the scene of heavy fighting in Feb. 1915 when the Amer. Ninth Army were ordered to hold a front on the Roer from J. to Roermond. The riv. was swollen with floods and it was not until Feb. 23 that the floods subsided sufficiently for two corps of the Amer. army to cross, the riv. in the J. sector, while a corps of the Amer. First Army began the attack over the Roer S. of Düren. J. fell on Feb. 21, Düren the following day. J. is probably the worst bombed tn. of Ger., 97 per cent. of the houses being destroyed. Pop. 8200. See WESTERN FRONT IN SECOND WORLD WAR.

Julien, Stanislas-Aignan (1799-1873), Fr. Orientalist. From 1824-26 he pub. a Lat. trans. of Mencius (Mang-tse). In 1832 he was appointed prof. of Chinese at the Collège de France, and became keeper of the Royal Library (1839) and head of the Collège Impériale (1851). His works include Fr. versions of *Holi-lan-ki* (The Circle of Chalk, 1832), *Tcheo-chi-kou-eul* (The Chinese Orphan, 1831), *Voyages du pèlerin Hien-tseung* (1853), and a *Synthese nouvelle de la langue Chinoise* (1869).

Julier Pass, one of the Alpine passes situated in the canton of Grisons, Switzerland. It connects the Rhine Valley and the Upper Engadine, and has an altitude of 7500 ft. There is now a railway tunnel under Albulu Pass (opened 1903), superseding the old route.

Julius, name of three popes:

Julius I. (337-52). In the Arian controversy he supported Athanasius, with

whom he was deposed by the E. bishops at Philippopolis.

Julius II. (*Giuliano della Rovere*) (1503-13), nephew of Sixtus IV., b. Albissola, near Savona, in 1413. During his uncle's pontificate he received many honours, and was sent as legate to France (1480), where he acquired great political influence. On his election to the pontificate he recovered Romagna from the Borgias, and devoted all his energies to suppressing nepotism and extending the temporal possessions of the church. In 1508 he joined the League of Cambrai with Maximilian, Ferdinand, and Louis XII. against Venice; but on the submission of that republic he joined the Holy League directed against Louis (1510). J. condemned duelling (1509) and simony (1513); sent missionaries to India, Africa, and America; and was a liberal patron of the fine arts. See lives by A. Dumasnil (1873), and M. Brosch (1878), also L. Pastor, *History of the Popes* (trans.), 1898, and G. Stange, *Erasmus und Julius II.: eine Legende*, 1937.

Julius III. (*Glorianni Maria del Monte*) (1550-55), b. at Rome in 1487. He was one of the three legates under whom the Council of Trent (1545) was opened. He sent Cardinal Pole to England to negotiate with Mary for the restoration of her kingdom to Rome. He was by nature pleasure-loving, and was guilty of the charge of nepotism. See L. von Ranke, *History of the Popes* (trans.), 1810-53, and L. Pastor, *History of the Popes* (Eng. trans.), 1898.

Julian, Camille (1859-1933), Fr. historian, b. at Marseilles. His most notable work was *Histoire de la Gaule* (8 vols., 1907-28), in which he displayed a wide appreciation of the scope of hist. Other works: *Histoire de Bordeaux* (1895), *Percinglorie* (1901), *De la Gaule à la France* (1922), and *La Seuil de notre histoire* (I-III, 1930 ff.). See life by A. Crequier, 1915.

Julien, Louis Antoine (1812-60), Fr. musical conductor, originally **Julien**, b. at Sisteron, Bas-see Alpes, France. He became a conductor of concerts in Paris (1836), came to London (1839) where he estab. promenade concerts, and travelled in the Brit. Isles and America. His light attractive promenade concerts drew large audiences, and his 'Monster Quadrilles' were very popular. But his sensational successes was due as much to his eccentric behaviour as to his superficial musical gifts. He became bankrupt (1857) and ultimately returned to Paris, where he was arrested for debt (1859) and died insane.

Julunder, see JALANDHAR.

Julus, or **Iulus**, genus of myriapods of the order Chilognatha, and the species are often known as gally-worms. The number of body segments varies between forty and fifty, many of which have two pairs of legs.

July, seventh month by our modern reckoning. In the old calendar, when the year began either with the vernal equinox or on March 1, it was, of course, the fifth month, and therefore called *Quintilis* by

the Romans. In honour of Julius Caesar, whose birthday fell on the 12th, it was named *Julius* in the last year of his life. The feasts of St. Swithin and St. James fall on the 15th and 25th respectively. Dog days begin on the 3rd.

Jumada I. and II., months of the Mohammedan calendar following Rabi' al II. **Jumet**, tn. in the prov. of Hainaut, Belgium, 3 m. N. of Charleroi. There are coal mines and sandstone quarries. Its chief industries are iron and copper foundries, glass-works, breweries and distilleries. Pop. 28,500.

Jumièges, Robert of, was b. in Normandy and came to reside in England as a follower of Edward the Confessor. In 1041 he became bishop of London, and in 1051 Edward appointed him archbishop of Canterbury. He was a firm friend of the king, but opposed to Earl Godwin, and on the latter's return from exile in 1052, had to flee to Jumièges where he died.

Jumièges, William of, Norman monk, and is remembered on account of his work of compiling a list of the dukes of Normandy down to 1071. This book, written in Lat., is in J. P. Migne's *Patrologiae Cursus Completus*.

Jumilla, tn. in the prov. of Murcia, Spain, situated about 37 m. N.W. of Murcia. Its chief productions are wine and brandy. Pop. 18,000.

Jummoo, see JAMNU.

Jumna, riv. of N. India. Rises near Jammu in the Himalayas and flows into the Ganges below Allahabad. Passes through Delhi, Muttra, and Agra.

Jumping, see ATHLETICS.

Jumping Hare, or *Pedetes Caffer*, called by the Dutch *Spring Haas*, rodent of S. Africa and a member of the family *Pedetidae*, being the only species of the genus *Pedetes*. The head of the animal resembles that of a hare, but its general appearance and movements are like those of a jerboa, though it is larger. It is, in fact, placed by some zoologists in the same family as the jerboas (*Dipodidae*). Its chief characteristics are its long tail, five toes to the fore feet and four on the hind, and hind limbs much longer than the fore limbs, thus enabling it to make immense leaps. It is a nocturnal animal.

Jumping Mouse, or *Zapus Hudsonius*, member of the *Jerboa* family (*Dipodidae*) and a native of N. America. It resembles a mouse, having a long tail and its hind limbs longer than the fore limbs, enabling it to leap in the same way as the other species of *Dipodidae*.

Junagadh: (1) State of India, situated on the Kathiawar Peninsula, Bombay. The chief products are cottons and cereals. After the passing of the Indian Independence Act the Muslims of J. showed their sympathy with those of Kashmir by rising against the Indian Gov. which had proposed to take over J. The dispute between India and J. was brought before the Security Council of the United Nations (March 8, 1948). The Indian representative maintained that only a few hundred of the pop. had voted against

accession to India in the plebiscite held a short while earlier; but he said that the gov. were willing to hold another plebiscite in J. under United Nations' auspices if so decided by the Security Council. Sir Muhammad Zafrullah Khan, the Pakistani representative, decried the plebiscite as a farce, without any real secrecy in the voting, and averred that over 20,000 Moslem voters dared not go to the polls or vote against India, so that Pakistan could not accept the results as valid. But following the integration of the administrations of the other Kathiawar states in the Saurashtra union, the gov. of India decided to appoint an executive council for J. of 'persons who would command the confidence of the people of J.' A three-man council presided over by the administrator appointed earlier by India, was sworn in at Rajkot (June 2). Area 3340 sq. m. Pop. 670,700 (2) Cap. of the above state, situated on the Rajputana Railway. The tn. contains sev. features of interest, among them an old citadel and some Buddhist caves. Pop. 10,000.

Junca, Etienne du, see under IRON MASK, THE MAN IN THE.

Juncaceæ, family of monocotyledons, is so named from its chief genus, *Juncus* (q.v.), which contains the rushes. There are 200 species, most of which are obscure herbaceous plants growing in colder parts of the world. The inflorescence is cymose (see INFLORESCENCE) and consists of hermaphrodite flowers; the perianth is sepaloïd and in two whorls of three, the stamens are also in two whorls of three, or only the outer whorl may be present; the ovary is superior and consists of three united carpels usually containing numerous ovules; the fruit is a loculicidal capsule. See JUNCUS.

Juncaginaceæ, order of small and unimportant monocotyledonous plants, is found in temperate lands, and consists of four genera of marsh-herbs. The chief genus is *Triglochin* (arrow-grass) of which two species occur in Britain.

Junction City, co. seat of Geary co., Kansas, U.S.A., between Republican and Smoky Hill Rs. There are stone quarries, marble works, flour mills, foundries, and machine shops. It is an important agric. centre. Fort Riley, an important military post, is three m. distant. Pop. 8500.

Juncus, chief genus of *Juncaceæ*, contains over 160 species, eighteen of which occur in Britain. These rushes are cosmopolitan in distribution and frequent damp, cold localities; in habit they are rigid, with slender stems which may contain pith or may be hollow: the flowers are small, green or brown in colour, and are borne in dense heads or panicles; pollination is effected by means of the wind. The economic importance of J. is slight; *J. squarrosus* forms a pasturage for sheep in hilly districts of Britain; other species are used to fix the soil on riverbanks; chair-bottoms, matting, and baskets are made from the long, flat leaves, and the pith forms the wick of rush-lights still used in Europe and in China.

June, sixth month by our modern reckoning. In the old calendar it was the fourth month. According to Ovid it was named after Juno (q.v.), the guardian of women, her month being regarded as favourable for marriage. In the Rom. calendar it was the fourth month and originally had twenty-six days, but later twenty-nine; to these Julius Caesar added one at the time of his reform of the calendar. The days of St. Barnabas and St. Peter are on the 11th and 29th respectively. Midsummer day falls on the 24th.

Juneau, cap. of Alaska, U.S.A., and is situated opposite Douglas Is. on Gastineau Channel. It exports gold, furs, and curios and is a large mining centre, being close to the Treadwell gold mine and the Silver Bow mine. Fishing is also an important industry. There are machine shops, saw and paper mills. Some farming and dairying are carried on. Pop. 7000-8000.

Jung, Sir Bahadur (1816-77), grand-nephew of Bhim sen Thappa, military minister and from 1804 to 1839 *de facto* ruler of Nepal. When Thappa was killed J. escaped, but in 1843 his uncle Matahar Singh became prime minister, and appointed J. chief judge. After various other changes accompanied by assassinations, J. became sole minister in 1846, and banished the king and queen. In the Indian Mutiny (1858) he strenuously supported the Brit., and was knighted for his loyalty.

Jung, Carl Gustav (b. 1875), Swiss psychologist and specialist in psychotherapy, b. at Kesswil. He collaborated with Freud in the development of the system for the analysis of mental processes known as psycho-analysis, but a conflict of opinion led to open rupture, and J. returned to Zürich to found a school of psychotherapy. Works: *Psychological Types* (1923), *Contributions to Analytical Psychology* (1928), *The Secret of the Golden Flower* (in collaboration with Richard Wilhelm) (1930), *Modern Man in Search of a Soul* (1933), *Psychology of Religion* (1933). See D. C. Daking, *Jungian Psychology and Modern Spiritual Thought*, 1933.

Jung, Sir Salar, see SALAR JUNG, Sir.

Jungbunzlau, see STARK-BENATKY.

Junger, Ernst (b. 1895), (Ger. novelist and essayist, b. in Heidelberg. After a distinguished military career in the First World War, he devoted himself to writing, using his former experiences as material. He is essentially an individualist, however, and although the substance of his writing is largely drawn from his military experience (e.g., *Feuer und Blut*, 1925), he is not guilty of (Ger. militaristic thinking. Indeed he believes that a constant exercise of human virtues is the only means of retaining a civilisation threatened by the forces of inhumanity and barbarism. Among his works are *Das Abenteuerliche Herz*, *Figuren und Capriccios* (1929) a contemplative essay; *Der Arbeiter* (1932), in which he describes the contemporary worker, and *Gärten und Strassen* (1942), which is a diary of some time he spent in France during the

Second World War. Other works include *Im Stahlgewitter* (1920, trans. 1929), *Das Wäldchen* 125 (1925), *Afrikanische Spiele* (1936), *Augen den Marinor-Klippen* (1939), and *Geheimnisse der Sprache* (1934, revised 1939).

Jungermannia, genus of liverworts which received its name in honour of the (Ger. botanist, Jungermann. The species are moss-like and are known popularly as scale-mosses; sev. have been found fossil.

Jungfrau (Ger. maiden), one of the three great peaks (Eiker, Monch) in the Bernese Oberland, situated about 7 m. W. of the Finsteraarhorn on the boundary of the canton of Bern. Its height is 13,670 ft., and it seems to have received its name from the pure whiteness and delicate shape of its snow-clad peak. It was first climbed in 1811 by the brothers Meyer, from the E., and since then has been ascended on every side, the N. face being the last to be conquered (1931). There is a railway to the Jungfraujoch (11,000 ft.).

Jungle (Sanskrit *Jangala*, desert; Hindu *Jangal*, forest, jungle), dense and almost impassable growth of trees, shrubs, reeds, grasses, inhibited by beasts of prey, snakes and monkeys.

Jungle-fowl, name applied to birds of the order Gallinae, to which belong four species. *Gallus ferrugineus*, the Red J., is generally considered to be the origin of domesticated poultry. Its back is purplish-red and orange, while the under surface, wings, and tail are greenish-black tinged with yellow. It is a native of India, Sumatra, the Philippine Is., and the Celebes, and is pugnacious towards its own kind, while the nose of both cock and hen is said to resemble that of ordinary domestic varieties. The other species of the genus are: *G. sonnerati*, the Grey J., a native of S., Central, and W. India; *G. Varius*, found in Java; and *G. lafayetii*, a native of Ceylon.

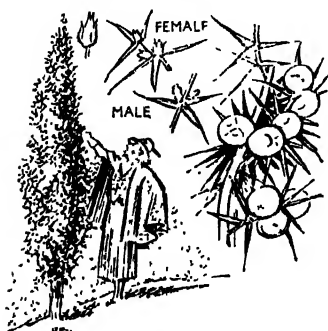
Junia gens, family of auct. Rome, of which Lucius Junius Brutus, who expelled the kings, and Marcus Junius Brutus, who killed Caesar, were members.

Junin: (1) Dept. of Peru, traversed by the Andes Mts. In this dept. is the Lake of Junin or Chinchavcocha, situated at an elevation of 13,000 ft. and drained by the R. Montaro. The lake is 36 m. long and close to Cerro de Pasco the cap. of the dept. of J. The dept. is rich in minerals, including silver. Area 22,814 sq. m. Pop. about 428,800. Chief tn. Huancayo (pop. 20,000). See also JAUJA. (2) Tn. situated in the dept. of Junin, Peru, 100 m. N.E. of Lima, standing at an elevation of 13,000 ft. It is a vitrate riv.-port. (3) Tn. of Central Argentina and rail junction 150 m. W. of Buenos Aires.

Junina, prin. trib. of the Upper Ganges, India. It rises in the Himalayas at an elevation of 12,000 ft., and pursues first an easterly and then a S.-easterly course through the United Prov., and at a distance of 3 m. below Allahabad joins the Ganges. This riv., which is about 860 m. in length, feeds the E. and W. Junina

Canals, and has sev. important tns. on its banks, among them, Delhi, Agra, Ferozabad, and Allahabad.

Juniperus, genus of coniferous plants containing thirty species, all of which are evergreen trees or shrubs and flourish in the N. hemisphere. The leaves are small, needle-shaped, and occur either as opposite leaves or in whorls of three or four; occasionally they are imbricated in four rows. The flowers are dioecious; the males form a scaly catkin and the females a small rounded cone which later develops into a fleshy fruit, known as a *giltule*, in appearance greatly resembling a true berry. *J. communis*, the common juniper, is a shrub which flourishes in Great Britain (where it is the only native conifer besides the Scots pine and the yew) as well as in other parts of N. Europe and



JUNIPER

Asia; the stem and leaves contain an aromatic principle; the blue-black fruit is used medicinally and in the flavouring of gin. *J. Virginiana*, the red cedar, of N. America, furnishes a valuable wood used by turners and cabinet-makers, and also employed in making lead pencils and cigar boxes; *J. Laramidiana* serves like purposes. *J. Sabina*, the savin, grows in S. Europe, and the topmost twigs of the plant are used in pharmacy.

Junius, Letters of, literary curiosity of the eighteenth century—a curiosity because, in spite of ingenious surmises and the most thorough and persistent perusal of contemporary documents, the identity of the author is still doubtful, and it is as true to-day as at the hour of their pub. that—to quote his own words—the mystery of Junius increases his importance. The letters, seventy in number, appeared in the London *Public Advertiser* between Jan. 21, 1769, and Jan. 21, 1772. During this period the writer invariably used the pseudonym of Junius, though he had at different times availed himself of others, 'Lucius,' 'Brutus,' and possibly of 'Nemesis.' His object was clearly to ruin the duke of Grafton's ministry, and in fulfilment of that purpose he used the weapon which nature had given him, namely satire of the most brilliant and

deadly description. The marquess of Granby, the duke of Bedford, and Lord Chief Justice Mansfield were each in turn the victims of his powerful and vilifying invective, but the most violent of Junius's onslaughts were naturally reserved for their leader, the ineffectual Grafton. Moreover, the author profited by his disguise, or rather invisibility, to speak some frank abuse of the king; indeed, it was the impudent epistle he addressed to George III. which excited a veritable storm of indignation, and at the same time sealed the writer's fame. But Junius was defeated in his aims; for the fall of Grafton (1770) was only the signal for the advent of Lord North and his tedious administration. Perhaps Junius deserved no better; for although he was a loyal and active supporter of Chatham he showed no political acumen in the steps he took towards restoring him to power. A modern reader of the 'Junius' polemics will be struck with their scurrility and venom; let him remember that these were fashionable qualities in similar writings of the day. But he will be so permanently and sincerely impressed by the vigour and dignity of their style. The careful rounding off of the lengthy periods, and a certain typically eighteenth-century pomposity, prove the author to have been an earnest admirer of the Ciceronian tirades; yet, in spite of his indebtedness to classical models, Junius, whoever he was, had a command over language which was original as well as splendid. There are cogent arguments in favour of regarding Sir Philip Francis as the unfortunably Junius, but the claims of a host of far more distinguished men, including Burke, Lord Chatham himself, Wilkes, Barré, and Horace Walpole, have one and all found eager partisans. See *The Francis Letters*, 1894; G. H. R. Francis, *Junius, Revealed by his Surviving Grandson*, 1891; J. Smith, *Junius Unravelled*, 1909; G. W. Everett, *The Letters of Junius*, 1927.

Junius, Francisus (1541-1602), b. at Bourges in France. He is b. known by his own ed. of the *Lat. t. f.*, slightly altered from the former joint ed., and with a version of the N. f. added.

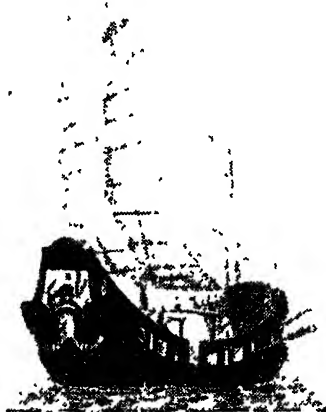
Junius, Francisus (1589-1678), son of the above, b. at Heidelberg. He was brought up in Holland, but in 1620 went to England, where he became librarian to the earl of Arundel. He was a student of A.-S., Gothic, etc., and pub. the Gothic version of the Gospels, *De Pictura Veterum*, and *Etymologicum Anglicanum*, a valuable work.

Junk, flat-bottomed, sou-gong boat, peculiar to China, which is employed on the coasts and seas of China and Japan. It carries large masts with square sails of matting, and has a very high fore-castle and poop. Its progress is slow, and it is awkward to handle. (See illustration, p. 66.)

Junkers, Hugo (1859-1935), Ger. aircraft designer, b. at Rheyal. From 1897-1912 he was prof. of mechanical engineering at the technical high-school at Aachen. In 1919 he founded the J.-

Werke at Dessau for the manuf. of aero-planes, and built up his business until by 1930, it was the largest of its kind in Germany, employing 5000 workers. His machines, including transport planes, fighters, and bombers were used by the Gers. in the Second World War. See file by C. H. Poller, 1930.

Junker, Wilhelm (1810-92), Ger. explorer of Africa, b. at Moscow. He studied medicine in Göttingen, Berlin, and Prague, but going to Africa in 1871, began the work of his life, exploration. He visited Tunis and Egypt, and explored the Upper Nile and the Welle. In 1883 he was prevented from returning to Europe owing to the Mahdist rising, but succeeded in reaching Zanzibar in 1886, and received the gold medal of the Royal Geographical Society in 1887. His *Reisen in Afrika* (3 vols., Vienna, 1889-91) contains an account of his travels and is a work of high merit. An Eng. trans. by A. H. Keane was pub. in 1890-92.



A CHINESE JUNK

Junkers, political party name given in Germany to the class of young nobles of military spirit who supported Bismarck before the Franco-Prussian War. The name survives from middle High Ger. *junc-hërre*, the name given formerly to the young princes of ruling houses, but later given to young men of landed interest without any particular title. The name in modern times has been associated with the sword-rattling and reactionary party of pre-1914 Germany, and it is asserted by some that the attitude, outlook, and behaviour of the J. were not without their effect on the outbreak of the First World War.

Juno, Rom. goddess, equivalent to the Gr. Hera. She was the daughter of Saturn and Rhea, and the wife and sister

of Jupiter. She was regarded as the counterpart of Jupiter, the queen of heaven and earth. She was the protectress of all women, from the moment of birth till death. Hence *Juno Natalis* was invoked by women on their birthdays; at the marriage of women *Juno Jugalis* presided; and the help of *Juno Lucina* was cried for by women in childbirth. Her festival called the *Matronalia* was celebrated on March 1. The month of Juno was called after her, and was thought particularly lucky for marriages. She was also regarded as the guardian of finance, a temple being dedicated to *Juno Moneta* in n.c. 341, which was afterwards used as a mint. She was represented with attendant peacocks.

Juno, third asteroid to be discovered, was found by Harding in 1804, the first, 'Ceres,' being found by Giuseppe Piazzi, 1801, and the second, 'Pallas,' in 1802 by Olbers. J. and Ceres are the largest of the planetoids and present at opposition a visible disc about 1 in. in diameter, corresponding to about 100 m.

Junot, Andoche, Duc d'Abrantès (1771-1813), Fr. general, b. at Bussy-le-Grand, in Côte-d'Or. He joined the volunteer army at the outbreak of the Revolution, and came under the notice of Napoleon at the siege of Toulon. He distinguished himself in many campaigns, and in 1804 was made governor of Paris. His extravagance and profligacy, however, coupled with stories of intrigue with the Empress Josephine, impelled the Fr. Govt. to send him abroad again. Accordingly, in 1807 he was appointed to command the army for the invasion of Portugal, and was so successful that he was created Duc d'Abrantès, and made governor of Portugal, but he was defeated by Wellington at Vimiera and obliged to retire from the country, bitterly mortified that he was not made a marshal of France when he received the Cross of the Legion of Honour. He afterwards served in Germany and Russia, but being blamed, with others, for the great Russian disaster, was sent to govern Illyria. This, added to his other misfortunes, brought on mental derangement, and he took his life in a fit of madness.

Junot, Laurette de Saint-Martin-Permon, Duchesse D'Abrantès (1784-1838), wife of Andoche J. (q.v.), was an able, extravagant, and intriguing woman. Her estates being confiscated in 1814, the Emperor Alexander offered her restoration on condition of her becoming a naturalised Russian. She refused and remained in Paris, supporting herself by the labours of her pen. She gained a reputation by her *Mémoires* (1831-35), and also pub. *Femmes Célèbres* (1833-35), and *Histoire des salons de Paris* (1837-38). See C. Bearne, *A Leader of Society at Napoleon's Court*, 1904.

Junta, Sp. word designating a legislative or other distinguished assembly which meets either for political purposes or for the passing of laws. In 1808 a J. was elected to undertake the defence of Spain against Napoleon. In Eng. hist. the word is used as a term of contempt

for a legislative party, etc., e.g. the Whig J. in the reigns of King William III. and Queen Anne.

Jupille, tn. in Belgium, 3 m. N.N.E. of Liège. It stands on the Meuse and has coal mines and important ironworks, producing boilers and nails. Pop. 8,100.

Jupiter, or **Jove**, Rom. god equivalent to Zeus of the Gks. He was saved as an infant by his mother, Rhea, from his father Saturn, who swallowed his male children immediately after birth. J. married his sister Juno. He was regarded as an elemental god, his name being contracted from *Die-piter* or *Diuvipater*. He was the greatest of all the Olympian gods, (*Optimus Maximus*) and was lord of heaven. He punished offenders with his thunderbolt (*fulmen*), and was called *Pluvius*, *fulgurator*, *Tonans*, *Fulminator*, having power over rain, tempests, thunder and lightning. His temple at Rome stood on the summit of the Capitol, and when presiding over the Rom. games he was called *Jupiter Capitolinus*. He was also known as *Jupiter Latialis*, being patron of the *Feria Latina*. J. directed the course of human affairs, and was regarded as omniscient and present. He revealed the future by means of omens, *Prodigia*, i.e. the sender of prodigies. His blessing was always invoked by the consults on entering office and before any great undertaking. His worship at Rome was under the care of the *Flamen Martialis*, the highest rank of the *flamines*. He was represented as sitting on a throne with thunderbolts in one hand and in the other a sceptre of cypress. He was supposed to take delight in the sacrifice of white bulls, goats, and sheep.

Jupiter, largest of the planets, and (if the sun, moon, and comets be excluded) the second brightest object in the sky when it is nearest to the earth (having about two times more lustre than Sirius, the brightest star), is one of the outer planets, and its orbit lies between those of the minor planets and that of Saturn. J.'s mean distance from the sun is five times that of the earth (183,000,000 m.), and its period is 11.86 years. Other data of the planet are as follows: Diameter, eleven times that of the earth (equatorial, 88,700 m.; polar, 82,800 m.); mass, less than one-thousandth of the sun; density, one-third denser than water, the earth being four times as dense as J.; rotation about axis, about 10 hrs.; and gravitational pull at surface, 2.65 times more than on the earth.

J. is attended by eleven satellites, four of which are just beyond the range of naked vision, but can easily be seen with the aid of a pair of field-glasses. These four moons were discovered by Galileo in Jan. 1610, being one of the first-fruits of the newly-invented telescope. It was not till Sept. 1892 that Prof. Barnard, at the Lick Observatory, found a fifth satellite revolving between these four and J. Three more moons were discovered as follows: two by Perrine at the Lick Observatory, 1904-05, and one by Melotte at Greenwich, 1908. These recently discovered satellites can only be seen by

high-power instruments, but quite a small telescope will show the transits in front of J. of Galileo's moons and their eclipses in his shadow. The smallest of Galileo's satellites is nearly as large as the moon, and the largest has a diameter nearly half that of the earth. The surface of J. presents the appearance of a number of belts, and they can be detected with the aid of a small telescope. The surface of the planet is continually changing, but since 1878 the equatorial belt has had a large red spot. The spot has varied in brightness, and was last visible in 1907. It has been found that the belts or currents rotate at different velocities. These differences go to prove that J. is not a solid body, and the permanence of the red spot also favours the conclusion. The red spot would appear to be something in the nature of a floating is., as is, having its base in the more solid regions.

Jura (Scandinavian *deor-oe*, deer island), is. of the Inner Hebrides, Scotland, off the coast of Argyllshire. It is separated from Scarba on the N. by the whirlpool of Corrie-crakan, from Islay on the S. by the Sound of Islay, and from the mainland on the E. by the Sound of J. The greatest length is 27 m., the width varying from 1 m. to 8½ m. Area 160 sq. m. It has a range of mts., culminating in the conical Paps of Jura (2751 and 2112 ft. high). The inhabs. are engaged in fishing, agriculture, and the raising of live stock. Pop. 750.

Jura, dept. of France, originally part of Fribourg-Comte, having Switzerland for its E. boundary. The dept. consists of a mountainous region, traversed by the Jura Mts., a vine region, and a plain situated in the W. The chief rivers are the Doubs and the Ain, both of which belong to the basin of the Rhone. The soil is fertile, and produces grain, the vine also being largely cultivated. The chief minerals are iron, coal, marble, and rock salt, while the industries comprise the manufact. of watches and clocks, and the making of Gruyère cheese. There are three arrons., Dôle, St. Clément, and Lons-le-Saunier, which is the cap. of the dept. The headquarters of the salt trade. Area 1951 sq. m. Pop. 216,300.

Jura Mountains. This range of mts., extends for about 100 m. from the dept. of Ain in France in a N.-easterly direction through Switzerland, traversing the cantons of Vaud, Neuchâtel, and Bern to the R. Rhine. They are made up of parallel ranges, the chief heights in which are Crot de la Neige (5675 ft.), situated W. of Geneva, the Dôle (5005 ft.), Columbière de Gex (5548 ft.), and Mont Tendre (5519 ft.). These consist chiefly of limestone, known as *Jurassic*, a term applied to the whole system in this div. of geology owing to the preponderance of this limestone in these particular mts. The mts. are covered with forests and intersected with fissures.

Jurassic System, The middle system of the Mesozoic or secondary group above from the Triassic system below. The rock members of the J. S. are widely distributed, e.g. a large tract surrounds the

Paris basin—a big area exists in Silesia, Franconia and N. W. Germany; the Jura Mts. give their name to the system, more or less isolated patches occur in Central and N. Russia in the Crimea, Caucasus, Carpathians, etc. though the development is less complete in N. America yet there is an important dist. in Colorado rich in reptilian remains, and portions of the system occur throughout India, S. Africa, S. America and Australia. In S. Britain the J. lies to the N. and N.W. of the Cretaceous deposits running in a

Lower (Batho)
Oolites

Lias

{ Bathonian
{ Bajocian
{ Tithonian
{ Iulian
{ Sinuorian

Other classifications give the Upper and Middle Oolites together under the name of Malm and the Lower Oolites as Dogger. In Germany the Lias is spoken of as Black Jura, the lower Oolites and part of the Middle as Brown Jura, and the remaining part of the Middle together with the Upper Oolites as the White Jura.



DIPLODOCUS (DIPTODOCUS) CARNIUM OF THE UPPER JURASSIC

An artist's impression based on the reconstruction of remains in the Upper Jurassic of Wyoming

curving E. from the N. of York (valuable limestone (Cleveland) through W. Lincolnshire, widening out near Northamptonshire to S. Gloucestershire and to Dorset with the useful Lias and Portland freestone. Only very small areas occur in the rest of the British Isles in Sutherland and the E. of Skye in Scotland and near Lough Lyle in Ireland.

Formations of the Jurassic System—The subdivision into formations has extended from the first separation into Oolites and Lias until the following classification has been made, partly based on the original British series, but applicable over much wider areas.

Upper (Ireland)	{ Purbeckian
Oolites	{ Portlandian
	{ Kimmeridgian
Middle (Oxford)	{ Cornalian
Oolites	{ Oxfordian
	{ Gallovian

Characters of the Strata—The rocks of the Jurassic are those of the Lower Cretaceous system (pt.) may be regarded as having been deposited during the first shallow water phase of the third marine period, but this phase was marked by very varied marine changes resulting in very diverse strata. The Lias is essentially a clay formation with occasional bands of limestone and nonstone of varying thicknesses. In the lower Oolites the bands of clay are only subordinate to the highly developed lime tones, but the Middle and Upper Oolites form an argillaceous series again, the limestone being discontinuous and sometimes entirely absent. Viewed broadly, the Jurassic rocks are of three great clay deposits, viz. Lias, Oxford, and Kimmeridgian clays alternating with the other deposits of varied lithological character. This argillaceous character of the system is frequently overlooked on

account of the greater variety of fossil remains in the non-argillaceous deposits.

Life of the Jurassic Period.—The rate of change in the organic world and the differentiation of species appear to have become much more rapid in Jurassic times, so that separate descriptions are required for quite small sets of strata. Broudy, it was an age of reptiles, e.g. Dinosauria, Pterosauria (commonly known as Pterodactyls), Ichthyopterygia, and Saurpterygia, which survived to Cretaceous times. Dinosauria were land animals from 20 to 40 ft. long, and doubtless resembled the modern kangaroo in method of walking. Pterosauria were capable of flight, while the other two orders were adapted for life in the sea. True birds appear, though none have hitherto been discovered in the Brit. Jurassic rocks. The two specimens from the Solenhofen slate of Bavaria, Archaeopteryx maximsi, have been placed in a special order, Faucibus, of their own. Marsupials appear for the first time. The period is noted for a great abundance and variety of Ammonites, while Belemnites appear in the Lias and reach a maximum development in Jurassic times. Sea species of the genus Lamelibranchia were abundant, as were also the true Echinids. Corals abound in most of the limestones. The flora is of such a nature that botanists have termed the Jurassic period the age of cycads. Ferns continued common, and conifers were represented by genera allied to the modern Araucaria cypress and yew. The general resemblance of the flora and fauna of Jurassic times to modern Australian flora and fauna lends support to Wallace's theory that Australia was severed in Mesozoic times, and its isolation has furnished a local survival of a once widespread series of organisms. The actual existence of genus *Trigonia* (characteristic of Mesozoic strata in Britain) in the Australian seas is of special interest.

Jurat, one of a body of magistrates in the Channel Is. J., are chosen for life and, together with the Bailiff, constitute the Royal Court of Justice. The office of J. dates from 1537.

Jurien de la Gravière, Jean Pierre Edmond (1812-92), Fr. admiral, b. at Brest. He entered the navy in 1828, and was in command of the Fr. Mediterranean fleet during the Franco-Ger. war of 1870, becoming director of charts in 1871; but he is chiefly famous as a writer on naval hist., and among his works are: *Guerres maritimes sous la République et l'Empire* (1864), *La Marine d'Autriche* (1865), *La Marine d'Aujourd'hui* (1872), and *Les Origines de la Marine et la Tactique navale* (1891).

Jurieu, Pierre (1637-1713), Fr. Protestant theologian, b. at Mer in J.-et-Cher. He studied in England under his uncle Pierre du Moulin, and in 1671 was made prof. of Heb. at Sedan; but when that Univ. was taken from the Protestants he settled at Rotterdam. He defended the doctrines of Protestantism with great ability, and in his *Accomplissement des Prophéties* (1686), foretold the overthrow of the Papal Church in 1689. Besides

this he wrote: *La Politique du Clergé* (1680), *Histoire du Calvinisme et du Papiame mis en Parallèle* (1683), *Histoire des Dogmes et des Cultes* (1701), and *Lettres Pastorales Adressées aux Fidèles de France* (1686).

Jurisdiction means the authority by which the law courts are entitled to decide matters litigated, or questions tried before them. The High Court has plenary J. all over England and Wales; but the J. of inferior courts (q.v.) is limited by being confined to certain limits of space and to certain kinds of causes or matters in dispute. Where the civil courts of inferior J. purport to act in a matter in excess of their J. the aggrieved party may get the cause removed to the High Court by writ of *prohibere*; and where a party is convicted in a criminal court that has no J. in the matter the proceedings may be moved into the King's Bench Div. by writ of *certiorari* (q.v.). Brit. subjects who commit murders or manslaughter on land in foreign countries are triable in the Brit. courts. As to eccles. J. see under ECCLESIASTICAL COURTS. In Rom. theological writings eccles. J. denotes the power which is connected with the worship of God and the salvation of souls, conferred by pontifical commission. States belonging to the family of nations (see under INTERNATIONAL LAW) claim exclusive J. on the sea to a distance of one marine league from the shore, though the U.S.A. claim a greater extent of J. than this. In 1922, the U.S.A. Gov., in order to have a freer hand in dealing with liquor smuggling, which, in consequence of prohibition, soon became extensive, proposed a treaty with Great Britain giving the U.S.A. Gov. a right of search to a limit of 12 m. Great Britain would not assent but a compromise was reached by treaty which left intact the principle that three marine m. extending from the coast line outwards and measured from low-water mark constitute the proper limits of territorial waters. By the Territorial Waters J. Act, 1878, 'territorial waters' of His Majesty's dominions means any part of the open sea within one marine league of the coast measured from low-water mark. The J. of the Admiralty Div. in the case of Brit. ships and all those on board extends not only over the high seas, but also in foreign rivers, 'as far as great ships go'; but not to any cinque port, haven, or pier, nor to any creek, riv., or port within the body of a country.

Jurisprudence, literally signifies a 'knowledge of law,' and persons skilled in the law were by the Romans, called *jurisprudentes*, or sometimes *jurisconsulti*. J. generally or general J. is the science which is concerned with the exposition of the principles common to all legal systems, or, as Austin has it, the matured systems of positive law. Ulpian defined it as the 'knowledge of things divine and human, the science of the just and the unjust,' a definition adopted in the opening words of the *Institutes* of Justinian. The Rom. conception of J. was eminently consistent with a legal system which, however practical in

application and concise in principle, was, in its literature, curiously intermingled with philosophical aphorisms and theories borrowed from the Gks. and, especially from the Stoic learning. And this wide difference between the Rom. and Eng. definitions of J., like that of Austin, has its counterpart in definitions of modern continental juristic writers, who, with their love of *Naturrecht*, either never really mark a clear distinction between law as it is and law as it ought to be, or else subordinate positive law to what Bentham called deontology. According to the Eng. school it is the function of general J. to explain such common notions, as property, possession, things which can be the objects of property, contracts, testaments, intestacy, and actions de wrongs, and to reduce all those comprehensive notions to some general form with which other particular legal systems may be compared (comparative J.). The Eng. deviation from the current idea of the scope of J. as evidenced by continental schools marks a peculiar development of Eng. thought, and indeed the philosophy of the formal abstract conception of *de facto* legal relations inspired by Hobbes, expounded by Austin, and elaborated by Bentham, is virtually indigenous to England. There is no clue in Eng. J., notwithstanding Austin's remarkable excursions into the Utilitarian philosophy, whereas the German conception of J. was that of an art having for its lofty aim nothing less than the pursuit of truth; and indeed these floated always before the eyes of the later Rom. jurists a vision of a *jus naturale*, a set of rules of inherently universal application upon which they built up their *jus gentium* (q.v.), and it is this very broad ethical conception that links the Rom. juristical writings with the treatises of continental writers. Ger. jurists so far have not regarded the Eng. method as worthy of much attention, an indifference which Sir Frederick Pollock attributes to the fact that whereas in England the positive law of the land has for centuries been "single, strong, and conspicuous in all public life," and therefore presented itself as an adequate object for distinct scientific study, in Germany there co-existed a large number of small independent states, which, although autonomous, yet looked beyond their own positive system to a common stock of Romanised Ger. tradition, and this ultimate source of principle became immeasurably the more attractive subject for scientific study.

By a kind of common consent, due perhaps to the very wide ramifications of Hobbes, Bentham, Bodin, Beccaria, and others, J. has been limited to the inquiry into the ultimate principles of either positive law of *Naturrecht*, or a compound of both, without encroaching on the domain of political science. Theories of sovereignty and legislation, therefore, are conventionally irrelevant, though all jurists analyse the conception of the state as a condition precedent to expounding legal principles; while some touch on the sciences of legislation and political ethics, though purely with a view to the ex-

planation of the exact place of positive law among allied sciences. See Austin's *Jurisprudence*; T. E. Holland, *Elements of Jurisprudence*, 13th ed., 1921; John W. Salmond, *Jurisprudence, or the Theory of Law*, 7th ed., 1921; Maine's *Ancient Law*, 1930; Benjamin N. Cardozo, *Paradoxes of Legal Sciences* (New York), 1928; Sir Paul Vinogradoff, *Outlines of Historical Jurisprudence*, 1920 ff.; F. Pollock, *First Book of Jurisprudence*, 1929; G. W. Keeton, *Elementary Principles of Jurisprudence*, 1930; E. Jenks, *New Jurisprudence*, 1933; H. Slessor, *The Law*, 1936; and W. Friedmann, *Legal Theory*, 1911.

Jurisprudence, Medical. See MEDICAL. **Jury.** Trial by J. signifies the determination of facts in the administration of civil or criminal justice by twelve men sworn (*Lat. jurati*) to decide facts truly according to the evidence produced before them. The institution is one of the most cherished guarantees of Brit. liberties, and historians in their enthusiasm have often seen its origin in the general statement of the liberty of the subject expressed in Clause 39 of Magna Carta, which declares that no freeman shall be imprisoned or outlawed except by the lawful judgment of his equals (*suorum parium judicium*). But this clause referred to the trial *per pares* or *per seculares* in the old co. or hire courts, an institution which has long been generally admitted to have been of a totally different character. Simple, indeed, as the definition of a modern petty J. may appear, the evolution of that body has been a subject of keen controversy, though, according to the most widely accepted opinion, its genesis may with some confidence be sought in the Norman custom of inquest by sworn recognitors, the principle of which was adopted as an alternative mode of trial in criminal cases when the Lateran Council of 1215 abolished the ordeal in England as a means of ascertaining the truth of a criminal accusation. The vital fact in the evolution of the petty J. (as opposed to the grand J.) is that, from being originally witnesses or persons presumed to know the facts of the case and able to come to a decision independently of other evidence, they ultimately became mere judges of fact.

In the form in which it existed for several centuries after the Conquest, the traces of trial by J. are more distinctly discernible in the ancient Norman customs than in such fragments of A.-S. laws as have come down to us. The canonical institution of trial by twelve compurgators, who merely gave general evidence as to a man's character, resembled the trial by J. in no other respect than the number of persons sworn, and that that institution was no progenitor of the J. is conclusively established by the fact that it continued, under the name of 'Wager of law,' side by side with the J. down to 1833. A number of notable writers, including Forsyth (*History of Trial by Jury*), see in trial by J. a purely indigenous growth. Yet others ascribe its origin to the twelve senior thegns of Ethelred's time, who were sworn to accuse none falsely; but that institution

is far more probably the ancestor of the modern Grand J.

But whatever view the antiquarian may take of the genesis, the development through the existing machinery of the *shire-moot* by Henry II. of the Anglo-Norman system of inquest of inquiry on behalf of the crown into facts by sworn recognitors, was not only the undoubted forerunner of our J., but an exclusively Eng. development. Under Henry II., trial by recognitors was mainly used at first as an alternative to trial by battle in disputes concerning the title to land. The actual practice was to select twelve knights from the neighbourhood who were obliged to declare on oath which of the parties had the better right, and if not unanimous, the original body was 'afforced,' i.e. others were added until twelve were of one mind. As soon as the twelve became stereotyped into arbiters ignorant of the facts as distinct from witnesses, we have the true civil J., and probably the same steps are discernible in the evolution of the criminal petty J., whose primary function was to test the truth of a criminal presentment by an accusatory J. (*jurata delictoria*) or, as we call it, a Grand J.

The early hist. of the Eng. criminal J. is uncertain, but it is clear from Bracton and Fleta that at the end of the thirteenth century it had become the normal mode of trial, having gained ground with advancing civilisation, and superseded the more ancient and barbarous customs of battle, ordeal, and wager of law. The J. now in use in England in the ordinary courts of justice are grand, special, petty, or common J. (Grand J., however, were abolished by the Administration of Justice Act, 1933, except in the case of indictments for offences under certain Acts of Parliament (six only) before grand J. of London and Middlesex. There is no qualification by estate for grand jurors, but those of the borough sessions must be burgesses (q.v.).

All natural-born subjects of the king and aliens domiciled for ten years or more, being men or women between twenty-one and sixty years of age, are liable to serve as jurors. The sex disqualification was removed in 1919, and women are now liable to serve, but a judge may order that the jury shall be composed of men only, or of women only, or he may, on an application by a woman called on to serve, grant her exemption in respect of any case by reason of the nature of the evidence to be given or of the issues for trial. All jurors are liable to serve on petty or common juries, but special jurors must have certain special qualifications. The following persons—save where exempted or disqualified—are compellable to serve on a petty or common J. at the High Court, at the Assizes, and on both the grand and petty J. at the co. sessions: a co. or bor. resident who owns £10 a year in real estate or rent charge, or £20 in households; a co. or bor. householder assessed to poor rate at not less than £30 a year in Middlesex and the Co. of London, or £20 in other cos.; and an occupier of a

house with not fewer than fifteen windows. Special jurors are selected from persons of higher degree, such as bankers or merchants, or having larger property qualifications, e.g. the occupier of a dwelling-house, in a large tn., rated at not less than £100, or, in a small tn. (less than 20,000 inhabs.) at not less than £50. Special J. are for the most part summoned for civil cases, but they may be summoned for certain criminal cases, viz. in misdemeanours, by permission of the Court of King's Bench (as to the criminal jurisdiction of this court see under KING'S BENCH) on motion of either the prosecutor or the defendant. Jurors for the City of London must be either householders or occupiers of premises, and in addition, possess property of some description to the value of £100. Persons above sixty are exempt from J. service. The following are also exempt: Peers, judges, Rom. Catholic priests, members of parliament, dissenting ministers following no other secular occupation than that of schoolmaster, barristers, solicitors (if practising), registered medical practitioners, and pharmaceutical chemists actually in practice, clerks in holy orders, solicitors' managing clerks, officers of the law courts, and officials connected with prisons and public lunatic asylums, officers in the Navy, Army, Air and Territorial forces on full pay, members and licentiates of the Royal College of Physicians of London or the Royal College of Surgeons (London, Edinburgh, and Dublin), masters, wardens, and brethren of Trinity House, masters of vessels in the buoy and light service, licensed pilots, post office employees, customs and inland revenue officials, metropolitan and country police officials, special constables, councilors of municipal corporations, tn. clerks, bor. treasurers (as to their own cos.), justices of the peace, metropolitan police magistrates and their officials, sheriffs' officers and household servants of the sovereign.

Lists of J. are prepared in accordance with the J. Act, 1922, the names of persons apparently qualified as J. being so marked on the Electors Lists, posted up in church porches and elsewhere. Persons who deem themselves to be entitled to exemption should communicate with the registration officer. A juror is entitled to six days' notice of the time at which he is required to attend, and if he is prevented by illness from attendance he must send a medical certificate to that effect to the associate of the court to which he is summoned. Failure to appear in the High Court or at assizes when duly summoned may involve a fine of £10 (at a Co. Court, £5). A special juror is customarily allowed a fee of one guinea in respect of each action which he is sworn to try. Counsel who succeeds in the action invariably asks the judge to 'certify' for the special J., where there is one and his client has summoned it, and the judge includes the fees in the costs if he thinks the case a proper one to be tried before a special J.; if he thinks otherwise the party summoning such special J. bears the expense. Common

jurors in civil actions are allowed no more than 1s. (on Curren, 8d.) a case; in criminal actions, nothing is paid. The Juries Bill (which had its second reading in Feb. 1919) provides, first, that jurors should receive some limited compensation for the loss of earnings and the expenses in which their services might involve them. The second object of the Bill is the abolition of the special jury in all criminal and civil cases (with the exception of commercial cases tried by a special jury of the City of London)—the assumption of the gov., which sponsored the Bill, being that the special jury had become a complete anachronism, and inimical to that appearance of equal and impartial justice which ought to be fundamental to the Eng. legal system.

Co. court J., formerly composed of five, now consist of eight members. They are not often resorted to, and it is well known that co. court judges as a body are strongly opposed to having time wasted and their faculties implicitly condemned by summoning such J. to assist them. Jurors may be objected to or 'challenged,' as it is termed, and either party may exercise this right, which is of two kinds: (1) Challenge to the array, or an objection to the whole number of jurors on the panel on account of some reason alleged against the sheriff who summoned them; (2) challenge to the poll, i.e. to some particular jurymen or jurymen on one or more of the following grounds: (a) That the juror is a peer, or is (b) not properly qualified, or (c) is likely to be biased, or (d) has been convicted of some crime or misdemeanour. A juror is not accountable for, nor will any action be against him, in respect of anything he says or does in the discharge of his duty.

The Second World War had an adverse effect on the Brit. J. system, and, in the criminal courts, although J. reduced in number remained, in the civil courts the system all but vanished. Trial by J. was now by favour and not of right. Under the Administration of Justice (Emergency Provisions) Act, 1939, no question arising in any civil proceedings could be tried with a jury unless the judge was of opinion that it ought to be so tried. The reason for the change was economy of man-power, but the emergency legislation only continued to its logical conclusion a tendency long present in the administration of justice. In the Co. Court trial by J., which had never been customary, had for many years been practically extinct. In the High Court under the Act of 1933, the Court had been given an absolute discretion as to whether trial should be by J. or not, except in cases of fraud, libel, slander, malicious prosecution, false imprisonment, and breach of promise of marriage. It is difficult to see the logical justification for this odd assortment of exceptions, though the nexus would seem to be that the cases affect the honour or feelings of the parties rather than their pockets. For the hist. of J., see T. Taswell-Langmead, *English Constitutional History*, 1875; W. Forsyth, *History of Trial by Jury*, 1852; H. Brunner, *Die*

Entstehung der Schirurgerichte, 1872; W. Stubbs, *Constitutional History of England in its Origin and development*, 1875-8; H. Philipps, *On Juries*; Sir F. Palgrave, *English Commonwealth*, 1831; N. Haskins, *Institutions* (Harvard) 1918; R. M. Jackson, *The Machinery of Justice in England*, 1910; M. S. Ames, *British Justice*, 1912.

Jus Civile, see ROMAN LAW.

Jus Devolutum, in old Scots law, the right of the bishop of a diocese to appoint an incumbent (q.v.) to a vacant living if the owner of the right of presentation does not exercise his right within a prescribed time.

Jus Emphyteuticarium, see EMPHYTEUTIS.

Jus Gentium, i.e. law of nations, was the body of laws administered in auct. Rome by the praetors and which, evolved as it was by a process of selection of such rules as by their inherent force and reasonableness commended themselves as principles of natural justice, was applied to outlying nations under Rom. dominion. The Eng. merchant law (q.v.) owes many of its essential principles to those of the J. G. Classical jurists give, as equivalent for *jus gentium*, 'the common law of all men,' 'the law which all nations use'—expressions which are designed to emphasise that *jus* is a word which includes the principles of legal right as well as the rules of law. There is no exact equivalent for *jus* in the Eng. language, and though J. G. is often trans. by 'the law of nations,' as if it were synonymous or co-extensive with what we call 'International Law,' the trans. is not justified. For the Rom. jurists included more in their J. G. than the law prevailing between states; and again, with modern jurists, 'the law of nations' is a law which rests on the consent of nations or states as such, whereas the Rom. jurists regarded the J. G. as resting on the consent of mankind. With the Romans, the underlying principles were the same for private as for public law, being in both the universally recognised principles of legal right.

In 'public law,' e.g., ambas. were sacred by the J. G.; but no special dept. of law in force between nations was appealed to, nor was the consent of any nation as such implied; ambas. were, in fact, sacred because in matters concerning nations, as well as in those concerning private persons, principles which commended themselves to the conscience of all men were necessarily to be observed. Thus the meaning of J. G. was the same in private and public law. Gaius (q.v.) uses *jus naturale* as equivalent to J. G. and declares that J. G. is 'what natural reason establishes among all men,' a declaration which Justinian (see JUSTINIAN) adopts from him. Ayala (q.v.) in writing on the laws of war, also adopts the current view of his time, that of a natural law to which the J. G. was added by common consent. But the J. G. of Grotius (q.v.) comprises only questions prevailing between states; but he divides it into that which is truly law and that which produces only a certain

effect like that of the primitive law; the former being identical with the law of nature, the latter resting on the will of the society of states and including laws good and bad, such as the bad customary laws of war against which he inveighed. See *The Collected Papers of John Westlake on International Law*, 1911, where all the opinions are collated.

Jus Mariti, in Scots law, the unlimited right of a husband, prior to the Married Women's Property Act, 1881, to manage and dispose of the movable estate of his wife, whether belonging to her at the date of marriage or acquired subsequently. The J. M. was lost only by express renunciation, or by exclusion by an antenuptial marriage contract. The Act of 1881 abolished the J. M. except as to cases where the marriage was contracted and the wife acquired property before July 18, 1881.

Jus Primæ Noctis, literally denotes the right of cohabitation on the first wedding night. According to some historians, the medieval feudal law gave the lord the J. P. N. with his tenant's wives on their first wedding nights. Blackstone repudiates the assumption that so barbarous a custom ever existed in England or Scotland, though it has occasionally been adduced as a plausible explanation of the custom of Borough-Eng. (q.v.), and of the origin of the fine paid by the tenant to the lord on the marriage of the tenant's daughter. But there is strong evidence of its former existence in Scotland, according to Skene, in the ordinance of King Evelyn to the effect that the lord of the ground should have the right by way of casualty (q.v.). Malcolm III. repealed the ordinance and decreed that the bridegroom should pay a sum of money (called *marag*) as compensation. Hence the Scottish term *merchet*, or *merchetu mulierum*, to denote the old form of the marriage tax in the charters of Robert I. According to certain Fr. writers, the J. P. N. was synonymous with the *droit du seigneur*, but others consider that the latter term merely connoted the insistence of the claren on continence in brides. The term, according to Schmidt, Veuillot, and others, but a quasi-religious significance, as exemplified in parts of China, where priests were said to deflower virgins at the express request of the girls' parents, and in W. India, where J. P. N. was extended to men of assumed divine caste. See Sir W. Blackstone, *Commentary on the Laws of England*, 1765; W. Bell, *Dictionary and Digest of the Law of Scotland*, 1838; L. Veuillot, *Droit du Seigneur*, 1854; K. J. L. Schmidt, *Jus Prima Noctis*, 1881; J. von Gierke, *Humor im Recht*, 1886, 1925.

Jus Relictæ, in Scots law, the right of a wife after the death of her husband to one-third of his movable estate if he dies leaving children, and to one-half if he leaves none. The husband, by the Married Women's Property (Scotland) Act, 1881, has a corresponding right, called the *jus relictæ*, in the wife's property. The widow is not disentitled by reason of having been previously provided for by

her husband, unless, in accepting such provision, she expressly renounced her right, and such renunciation is only effectual to bar her J. R. if it be shown that she was fully aware of the extent of her legal right. The husband cannot affect the J. R. by any testamentary or other deed.

Jusserand, Jean Adrien Antoine Jules (1855-1932), Fr. politician and writer, b. at Lyons. In 1887 he began his career as a diplomat, during which he fulfilled sev. important missions. Ambas. in the U.S.A., 1902-25. Among his writings may be mentioned: *Le Théâtre en Angleterre depuis la Conquête jusqu'aux pré décesseurs immédiats de Shakespeare* (1878), *Les Anglais au moyen âge* (1884), *Le Roman anglais* (1886), *Le Roman au temps de Shakespeare* (1888), *Histoire littéraire du peuple anglais des origines à la Renaissance* (1894), *The School for Ambassadors, and other essays* (1921), *Le Maréchal d'Isadès et ses Critiques* (1928), *The Writing of History* (in collaboration, trans., 1926), *What Me Defelt* (1933).

Jussieu, De, name of a Fr. family of botanists. Among its chief members may be mentioned:

Antoine (1686-1758), b. at Lyons, and was made prof. of botany in Paris, as the successor of Tournefort. He pub. *Tournefort's Institutiones rei herbarie* (1719), ed. by him.

Bernard (1699-1777), also b. at Lyons, was the superintendent of the gardens at the Petit-Trianon, and to him is due the beginning of the arrangement of the plants according to a natural system, a method completed by his nephew. He ed. *Tournefort's Histoire des Plantes qui naissent dans les Environs de Paris* (1725).

Antoine Laurent (1748-1836), nephew of Bernard, was in 1770 made prof. of botany at the Jardin des Plantes, Paris. His *Genera Plantarum* (1789) is the foundation for the modern method of botanical classification. He also pub. articles in *Annales du Muséum* (1804-20), and in *Dictionnaire des Sciences Naturelles*.

Adrien (1797-1853) is remembered for his pub. on Rutaceæ, Meliaceæ, and Malpighiaceæ, as well as that on Euphorbiaceæ.

Laurent Pierre (1792-1866), nephew of Antoine Laurent, and a Fr. writer on education. His chief work is *Simon de Nanhua* (1818), trans. into sev. languages.

Justice, Court of International, see INTERNATIONAL JUSTICE, COURT OF.

Justice, Royal Courts of. Up to the time of the passing of the Judicature Act in 1873 the R. C. of J. were situated at Westminster Hall, the place where the *Aula regis* of the Norman and Plantagenet periods sat. The constituent courts in 1873 were the Queen's Bench (see KING'S BENCH), the Common Pleas (q.v.) and the Exchequer (q.v.), which were styled the Superior Courts of Common Law, in contradistinction to the High Court of Chancery, with its vice-chancellor's courts, which were generally referred to as the *Courts of Equity* (see EQUITY). In addition there were the High Court of Admiralty, usually called the *Instance Court*

when exercising its jurisdiction in respect of maritime injuries, and the *Prize Court* when constituted for the decision of questions concerning booty of war; the Probate Court (*q.v.*), the Divorce Court (*q.v.*), the Palace Court (*q.v.*), and a Court of Chivalry. All the jurisdiction exercised by the superior courts of law and equity, the High Court of Admiralty, the Courts of Probate and Divorce, and the Courts of Assize, was by the Judicature Act, 1873, transferred to the High Court of Justice, situate in the Strand, which comprises: (1) The two Courts of Appeal (*see* APPEAL), (2) the Court of Criminal Appeal (*see* CRIMINAL APPEAL), (3) the King's Bench Div., (4) the Chancery Div., (5) the Probate, Divorce, and Admiralty Div., and (6) the Railway and Canal Commission Court. The bankruptcy work of the court is done by one judge from the King's Bench side. *See also* JUDICATURE ACTS.

Justices, Lords, the L. J., who are eight in number, form, together with the Lord High Chancellor, the Lord Chief Justice of England, the Master of the Rolls, and the President of the Probate, Divorce, and Admiralty Div. as *ex-officio* members, the penultimate Court of Appeal for England and Wales. In practice, the Master of the Rolls alone of the *ex-officio* judges sits as a regular member of the Court of Appeal. Ordinarily there are two courts of appeal of co-ordinate jurisdiction, one consisting of three L. Js., and the other of two L. Js. and the Master of the Rolls. An *ex-ord* chancellor is also entitled to sit in the Court of Appeal, and provision is also made for calling in a judge of the High Court to reinforce the Court of Appeal when necessary. (At the beginning of 1913 a third court was constituted temporarily, for the purpose of disposing of arrears of pending appeals.) This Court of Appeal was estab. by the Judicature Act, 1873, as a superior court of record, and it was intended that there should be no appeal from its decisions either to the House of Lords or the Privy Council: but that provision of the Act of 1873 was finally repealed, after being suspended by the Appellate Jurisdiction Act, 1876. To the Court of Appeal was transferred all the jurisdiction and powers of: (1) The Lord Chancellor (as titular head of the Chancery Court, and of the old Court of Appeal in Chancery, in his and its appellate jurisdiction, and of the same court of appeal in bankruptcy). (2) The Court of Appeal in Chancery of the Co. Palatine of Lancaster, and of the appellate powers of the Chancellor of that duchy. (3) The Court of the Lord Warden of the Stanmires and his assessors. (4) The Court of Exchequer Chamber (*q.v.*). (5) The judicial committee of the Privy Council, or the King in Council, as to any appellate jurisdiction from a judgment of the Admiralty Court, or from any order in lunacy. Subject to certain exceptions, an appeal lies from the High Court to the Court of Appeal from every judgment or order of the High Court, but no appeal lies to it in criminal matters, and in the case of any inferior court (*q.v.*)

only by leave. The procedure on appeal is by motion either for a new trial or to set aside a verdict, finding, or judgment. The notice of motion must state the grounds of the application, and whether all or part only of the finding is complained of, and the court may order the appellant to give security for the costs of the appeal. A new trial may be granted on any one or more of the following grounds: (1) Misdirection by the judge; (2) misreception of evidence or erroneous rejection of evidence by the judge; (3) misbehaviour of the jury; (4) excessive or inadequate damages; (5) discovery of fresh evidence; (6) total absence of evidence for the jury; (7) verdict against the weight of evidence; (8) surprise—term used to denote all cases where the appellant, through no fault of his own, was prevented from getting a fair trial, *e.g.* by his opponent keeping a material witness away, or misleading him as to the time of the trial. It is a rule of the Supreme Court that there is no appeal from an order of a High Court judge as to costs, such matter being entirely within the discretion of the judge making the order. In most cases a party has a right of appeal without leave, although the judge whose order or judgment is being appealed against may, on notice of appeal being given, refuse a stay of execution or impose certain terms as to paying money into court as a condition of appeal. From the Court of Appeal there is a right of appeal to the House of Lords, but it is an extremely expensive process.

Justices of the Peace. These are inferior and unpaid magistrates appointed by the lord chancellor on the recommendation of the lord-lieutenant of a co., to keep the peace within the co. bor., riding, liberty, or other div. in which they are appointed. The title of J. of the P. dates from 1360, when Edward III. vested a criminal jurisdiction in the old Conservators of the Peace. The term of these latter is traced by Bishop Stubbs (*Sicet Charters*) in the appointment by Archbishop Hubert as chief justice in 1195 of knights to receive the oaths for the maintenance of the peace (*see the Edictum Regium*). In 1253, and in other years, knights were assigned to keep the peace, and in Edward I.'s reign *custodes pacis* were sometimes elected by the co. freeholders. One of their prin. functions was the enforcement of the Statute of Winchester, 1285, which, *inter alia*, regulated the watch and ward in tns., and made distr., in which felonies had been committed, liable to produce the bodies of the culprits. Edward III. gave them the general power of trying practically all felonies, and in course of time they gradually usurped all the powers previously exercised by the Shire Moot. An Act of Henry VII. empowered J. of the P. to try all offences except charges of treason, murder, and felony, but from that date their powers as a body of criminal judges declined. But for long they exercised multifarious duties of local gov., and among the earliest of such duties were those of collecting benevolences, main-

taining bridges, highways (*q.v.*), and public buildings, granting licences, appointing local officials and controlling local finance. The bulk of these administrative duties has long been transferred to the co. councils (*q.v.*) by the Local Gov. Act, 1888. But by means of a joint committee, the J. of the P., and the co. councils jointly superintend the co. police. The Act of 1888 did not interfere with the judicial work of J. of the P., and the decline in their criminal jurisdiction was rather a consequence of the practice of remitting the more serious felonies to the assizes—a practice now hardened in a statutory provision to the effect that the criminal jurisdiction of the Quarter Sessions (*see* COURTS SESSIONS) is now confined to the trial of certain minor felonies and misdemeanours.

The post of co. justice, formerly remunerated by a scale of wages regulated by a statute of 1889, is now purely honorary, and since 1907 the old property qualification of £100 a year, or the necessity for any property qualification, has been abolished. The lord chancellor, the lord president of the Privy Council, the lord privy seal the judges of the High Court, the att.-gen., general and solicitor-general are J. of the P. *virtute officii*. Co. court judges, bor. recorders, metropolitan police court magistrates, and others who, by reason of holding certain minor judicial offices, acquire the rank of J. of the P. Other classes of J. of the P. are mayors of municipal or metropolitan bor., ex-mayors of municipal bor. (for one year following their year of office), chairmen of co. and dist. councils and the mayor and aldermen of the City of London. Bor. justices are now appointed under the Municipal Corporations Act, 1882, but a bor. can petition the crown for the appointment of a stipendiary magistrate to be appointed by the Home Secretary. Women are competent to be appointed as J. of the P. (*Sex Disqualification (Removal) Act, 1919*). Petty sessions are sittings held by two or more J. of the P. for the disposal of minor charges, admitting to bail persons accused of felony, the hearing of informations and complaints, and certain other purposes. The lord mayor or any of the aldermen of the City of London, or any police or stipendiary magistrate sitting in a court-house, where he has the usual power of two justices, constitutes a petty sessional court-house. A single magistrate sitting alone has very circumscribed powers. He can hear a charge prior to committing for trial, release a prisoner on bail (*q.v.*), take his recognisance to appear, and dismiss a case when the evidence is not strong enough to justify committal.

There have been considerable accessions in recent years to the judicial powers of J. of the P. They are empowered to grant judicial separations between husband and wife, and make maintenance orders against a husband in favour of his wife up to £2 per week; they can make bastardy orders, licence places for the sale of intoxicating liquors, and exercise limited powers in ejectment (*q.v.*), gener-

ally speaking, restricted to cases where the rent does not exceed £20. J. of the P. have wide ministerial duties and powers, *e.g.* under the Elementary Education Acts, in default of the co. councils; the imposition of highway (*q.v.*) rates; granting exemptions under the Truck Acts; and licensing drivers of motor cars. Stone's *Justices' Manual*; *The Justice of the Peace and his Functions*; L. Page, *Justice of the Peace, 1936*.

Justicia, large genus of *acanthaceous* plants found in all tropical parts of the world, but preferring damp woods. Only a few species are cultivated as ornamental plants.

Justiciar, in Eng. hist. the chief political and judicial officer under the Norman and Plantagenet kings. The J. first appeared in Eng. hist. in the time of Wm. I., as the regent of the kingdom in the sovereign's absence, *e.g.* Wm. Fitz-Osbern, earl of Hereford, acted in that capacity for Wm. I. during his absence in Normandy in 1047. The importance of the office was much increased by Ranulf Flambard under Wm. Rufus and the J. became (next to the king) supreme in justice and finance. When the *Curia Regis* split up into the Courts of Common Law, in the time of Henry III., the power of the J. began to decline, as he could not preside over all the three courts. The office ceased to exist in the reign of Edward I. and the J.'s powers passed to the Lord High Chancellor.

Justiciary, High Court of, supreme court for criminal causes in Scotland. There is no Court of Criminal Appeal for Scotland other than this court itself, and no appeal from the decisions of the H. C. of J. to the House of Lords. Its decisions are therefore final. The court sits permanently at Edinburgh, and various of its judges go on circuit six times a year to Glasgow, four times to Aberdeen, Dundee, and Perth, and twice a year to Ayr, Dumfries, Inveraray, Inverness, Jedburgh, and Stirling; but special sessions may be held at any convenient tn. Its membership comprises the Lord Justice-General, the Lord Justice-Clerk, and eleven Lords Commissioners of Justiciary, *i.e.* the whole of the Lords of Council and Session and Senators of the College of Justice. A single judge usually sits, except in cases of special importance or when the court is sitting as a Court of Appeal, in which latter case three judges form a quorum. Its jurisdiction extends to any crime against public law committed by a Brit. subject or a foreigner, in Scotland, or partly in Scotland and partly abroad, or committed at sea at the time the ship was within three m. of the coast of Scotland. Formerly certain crimes were triable only in the H. C. of J., such as robbery, rape, murder, and wilful fire-raising. But since 1887 the Sheriff Court has had jurisdiction in all crimes except treason, murder, and rape.

Justifiable Homicide. Homicide by the Eng. criminal law is justified in the execution of a criminal; in the prevention of a 'forcible and atrocious crime' (*e.g.* rape); and in the case of an officer of justice

killing a person who prevents him from carrying out his duty. It is distinguished from excusable homicide, though the effect (acquittal) of the latter is the same. Homicide is excusable in self-defence, or when it occurs by accident.

Justinian, the historian, *J.*, it seems, in the reign of Antoninus Pius, but his personal hist. is a blank. His forty-four *Historiarum Philippicarum libri*, however, are extant, though the compendious work of Trogus Pompeius, who lived in the days of Augustus, has unfortunately perished. Justin's *History* was merely a popular epitome of Trogus's. It must be confessed that Justin's redaction is somewhat free and careless, yet it gives many details and anecdotes about the Assyrians, Medians, Persians, Gks., Macedonians, Carthaginians, and Parthians, etc., which are not recorded elsewhere, and is written, moreover, in a readable style. Gronovius pub. a good ed. in 1719, and since then many others have been issued.

Justinianus, Flavius Anicius (A.D. 482 or 483-565), ruled over the E. Rom. empire as Justinian I. He was born in Illyricum of obscure barbarian parentage. Justinus, the emperor, however, was his uncle, and



JUSTINIAN I

From the Ravenna Mosaic

as in the helplessness of his age and ignorance he had learned to trust the energies and capacities of his nephew, who had profited by a liberal education in Constantinople, he wisely appointed him his successor. Thus Justinian came to the throne in 527. The outstanding features of his reign are his conquests and his laws, but a word must first be said of his personality and eccles. policy. He is described as vain and somewhat fickle of purpose, but, on the other hand, he was a model of industry, and a man of wide interests and large public spirit. Thus he built and re-

paired many cities, bridges, walls, and public buildings, encouraged commerce, and introduced into Europe the cultivation of silk-worms. Further, he was virtuous in private life, indifferent to ease and luxury, always courteous to friends, and easy of access to strangers.

The church received his constant and earnest attention. By edict he denounced the heresies of Theodore, a Nestorian, hoping thereby to put an end to the miserable schisms, and later he summoned a general council of the church. But the chief fruit of this was the tedious 'Three Chapters' controversy, and, as Justinian himself was at least suspected of Monophysitism and a more recent heresy, it is not surprising that his desire for peace was unfulfilled; indeed his rigorous persecution of pagans and heretics, and especially of the Phrygian Montanists and the Samaritans of Palestine, encouraged fanaticism and religious strife.

The warlike Belisarius and the skilful Armenian eunuch, Narses, won his battles. Thus Africa was wrested from the Vandals (535) and Italy from the Goths (552); along the Danube there were successful skirmishes with the Bulgarians, Gepids, and Langobards, whilst in 562 a truce was made after a twenty years' struggle with Chosroes I. of Persia, whose encroachments on the E. frontier were thus momentarily stayed. Yet Justinian has with some justice been accused of squandering the enfeebled resources of the empire in recovering exhausted Gr. instead of strengthening the barriers against the Slavs and Huns and the Iranians.

Tribonian was the animating spirit of his legal reforms. A body of ten scholars under Tribonian brought out the *Code* in 529, and a second ed. followed in 531. Seventeen lawyers, again with Tribonian at their head, issued the *Pandects*, or *Digest*, in 533, having 'extracted the spirit of jurisprudence from the decisions and conjectures, the questions and disputes, of the Rom. civilians' in the remarkably short period of three years. The *Institutes*, which was intended as a student's manual in the academies of Rome, Constantinople, and Berytus, preceded the *Digest*. Finally, sixteen edicts and a number of 'novels' (*Novellæ*) completed his compilation, a compilation destined for centuries to be the basis of European codes. Though Justinian founded his work on the 'sages and legislators' of past ages, he paid little heed to any lawgivers before the days of Hadrian, and thus abetted time in fast consigning the jurisprudence of the Rom. republic to what to-day is regarded as a regrettable oblivion. Without belittling the services rendered by Justinian's constructive simplification of Rom. law, it must be acknowledged that Gibbon's description of his code as a 'treasselled pavement of antique and costly but too often incoherent fragments' is a true one. Mommsen's ed. of the *Digest* (1864-70) and Krüger's ed. of the *Code* (1873-77) are the best. See monograph by E. Grube, 1923, and W. Schubart, *Justinian and Theodora*, 1913.

Justinianus II. (A.D. 685-695 and 704-711), Byzantine emperor, succeeded his father, Constantine IV. He made war on the Arabs and Bulgarians, and so roused the hatred of his subjects by his rapacities and persecutions that they rose in rebellion under Leontius. The rebellion succeeded, and Leontius cut off the emperor's nose and drove him out of the cap. J. had his revenge in 704, when he surprised Constantinople and put Leontius to death. He also slew Tiberius, his successor, and harked back to his former tyrannies.

Justinus, called **Justin Martyr** (c. A.D. 100 c. 165), early apologist of the Christian Church. He was b. at Flavia Neapolis, now Nablus, in Samaria, of heathen parents, and was brought up in the philosophy of the Stoics and Platonists. In his *Dialogue with Trypho the Jew* he ascribes his conversion to Christianity to a chance conversation with an aged stranger, a Jew, at Ephesus, who directed him to study the O.T. prophets. After his conversion he continued to wear his philosopher's cloak, disputing and lecturing at Ephesus, Rome, and other cities. The date of his martyrdom cannot be exactly determined; acc. *Apoc.* to the *Acta SS.* *Justin et Sociorum*, it took place under the prefect Rusticus (A.D. 163-167), but some authorities quote the earlier date of 148. The two undoubtedly genuine works of J. are *Apologies for the Christians*, in two books, and the already mentioned *Dialogue*. The former is addressed to a cultured pagan audience, and to the modern student is of great value as a hist. of the early Christian Church. To a certain extent J. reconciles Christianity with ant. Gk. culture. The latter is a defence of primitive Christian theology as opposed to Judaism, and is an account of a two days' theological discussion at Ephesus. Other works ascribed to him are a speech and an address to the Gks., and an *Epistle to Zenas and Serenus*, but their authenticity is very doubtful. The best ed. is that of J. C. P. von Otto, *Justin philosophi et Martyris opera quae servantur omnia* (3 vols., 3rd ed.), 1876-81. For Eng. trans., see the Oxford Library of Fathers (1861) and C. Cox, *Ante-Nicene Fathers* (vol. II., 1868). See Sir J. Donaldson, *History of Christian Literature and Doctrine*, 1866; monographs by Kave, 1889, and Feder, 1906; also A. von Harnack, *Judentum und Judenthum in Justinus Dialog mit Trypho*, 1913; F. R. Goodenough, *The Theology of Justin Martyr*, 1923; K. Thiem, *Kirche und Synagoge*, 1945.

Justinus I. (A.D. 518-527), Byzantine emperor, was a peasant boy of Dacia, who enlisted in the guards of the Emperor Leo I. He soon rose to general and, on the death of the Emperor Anastasius, was chosen emperor. At the instance of his nephew, Justinian, he healed the breach between the Gk. and Rom. Churches.

Justinus II. (A.D. 565-574), Byzantine emperor, succeeded his uncle, J. I. At the request of the Rom. he deposed Narses, the Goth, and made Longinus exarch of Ravenna in his stead. It was the invita-

tion, it appears, of the turbulent and humiliated Narses which brought the Langobards under Alboin like a torrent over the Alps and thus lost the whole of N. Italy to the empire of Constantine. J., now impotent from disease, could offer no resistance and abdicated four years before his death.

Justus, (1) The surname of Joseph Barsabas (see under JOSEPH). (2) a Jewish convert and fellow-worker of Paul (Col. iv. 10). (3) Corinthian convert, whose name is given variously as 'Titus Justus' and 'Titus J.' (Acts xviii. 7).

Jute, vegetable fibre grown chiefly in the prov. of E. Bengal, Pakistan. In that country it has been employed for centuries in manuf., but its introduction as a textile into Europe dates only from about 1825. The founder of the Bengal J. industry was an Englishman, George Acland, who began life as a midshipman in the navy, and served with the E. India Marine Service, and afterwards left to take up a commercial life, first in Ceylon, and then in Bengal. He got into touch with manufacturers of paper at Serampur who were experimenting with fibres in the hope of improving and cheapening their output, and this seems to have prompted the idea in Acland's mind of the manuf. of reha. He returned to England to find capital and visited Dundee. Then John Kerr suggested to him the importing of machinery into Bengal because the jute was to be found there and could therefore be economically spun. Out of this suggestion came the building of the first mill by Acland in 1855. J. is obtained from two species of *Corchorus*, namely, '*capsularis*' and '*C. olitorius*', the products of which are both so similar that economically no difference is recognised. *Corchorus* belongs to the lime-tree family (Tiliaceae). The two varieties mentioned are ann. plant., with round stems as thick as a man's finger, and with hardly any branches except at the top. They reach to a height of from 5 ft. to 10 ft., and are readily distinguished by their seed pods: the capsule of '*C. olitorius*' is a slender cylinder some 2 in. long, whilst that of '*C. capsularis*' is almost globular and rough to touch.

Cultivation.—J. grows best in a hot moist atmosphere where there is considerable rainfall. It flourishes in Bengal, especially in the highland dists., and attempts to introduce it into Egypt and other parts of Africa, etc., have so far resulted in the yield of an inferior variety. The seed is sown broadcast at any time from the middle of March to the middle of June. Sometimes, however, it is first planted in nurseries and transferred outside in the seedling stage. The appearance of the flower is the signal for harvesting, which usually takes place about three months after the sowing. The stalks, which are either cut down with the sickle or pulled up by hand, are gathered into bundles and immersed in stagnant pools or streams to undergo the process known as 'rotting.' This may last from three to thirty days, the object being to loosen the fibres and separate them from the stem.

After being cleansed from vegetable impurities, the fibre is made up into bundles, sorted according to quality, and passed through a powerful hydraulic press which reduces it to the familiar bales of commerce. Each bale weighs 400 lb., and an average crop yields 2.6 bales per ac. The area under J. in India averages 2½ to 3 million ac., the ann. yield being from 7 to 9 million tons. The raw J. exports from India were valued at 14,71,30,000 rs. in 1937; and at 10,41,72,856 rs. in 1942; manufactured J. exports at 29,07,75,000 rs. in 1937, and at 53,89,58,380 in 1942 (variations in the price will be found set out in the *Indian Year Book*). Of the quantity produced nearly half is supplied to Indian mills and used for home consumption, whilst five-sixths of the remainder is exported to Europe and one-sixth to America. About one-third of what goes to Europe is shipped to the Brit. Isles, Dundee being the centre of the J. industry, and the J. products of Dundee range from the coarsest sacking to fine carpets. The industry in Dundee has multiplied over 1000 times since its beginning at the Chapelshade works in 1832. But a long slow decline of Dundee's staple trade has been going on as India has developed her own J. industry. Before the First World War, the Dundee industry employed 10,000 people; between 1924-37 the proportion of Dundee workers employed in J. dropped from 50 to 40 per cent and it is still dropping. The number of workers to-day is about 14,000. J. mills were first estab. in Calcutta in 1854. There were over 100 mills in Bengal in 1939. The Indian J. Mills Association is probably the most important of the bodies affiliated to the Bengal Chamber of Commerce. This body began operations in 1886. Subsequently an Association called the Calcutta J. Dealers Association was, within recent years started in Calcutta to promote and guard the common interests of its members as dealers in J. for local consumption.

Uses and characteristics of Jute.—The Hindus have from very early times made cordage, paper, and cloth out of this fibre. The chief cloth made to-day is 'gunny' cloth, which is woven of different textures, according to the purpose for which it is intended. Thus gunny bags are used for carrying poppy seed, pulses, and rice, and package covers, sails, sheets, and even wearing apparel are also made of this material. Other articles made of J. are string, cord, and rope; floor-cloths, painters' brushes; net-bags to carry hay or to muzzle cattle; and lengths of stuff for tying bales of cotton. Hessian, tarpaulin, sacking, and bagging are some of the materials turned out from the Dundee factories, whilst from J. also are manufactured Wilton, Brussels, and other carpets and all kinds of rugs and matting. The waste products resulting from these manu. can be used up in paper mills. The best J. is inferior in durability and strength to hemp and flax, and even single strands are rarely of the same tenacity throughout. The finest qualities, such as Serajgunge and Naraajgunge, are lustrous,

soft, and smooth, long, uniform in fibre, and of a yellowish-white colour. Inferior qualities, as, for instance, Dalsee and Dowrah, are of a brownish hue, and unfit only to be dyed darker shades. Good fibres may be dyed delicate and also bright tints, but they rarely bleach a pure white. Balers have an elaborate system of marking the four main classes of the fibre and of subdividing these again according to tone and quality.

Manufacture.—In the early decades of last century manufacturers were confronted with many difficulties, arising either out of the use of unsuitable machinery or out of the failure to realise that J. is far more woody and brittle than other fibres. These difficulties, however, were overcome, so that J. is not only employed to make the commodities detailed above, but is also freely mixed with other animal and vegetable fibres to make horsecloths, tapestries, paddings, household cloths, etc. In a modern factory the first process is 'batching,' by which the J. is classified according to the quality adapted to the yarn desired. In the softening machine the 'streaks' or 'heads' are thoroughly wetted between fluted rollers with water and oil, as they have been hardened in the course of baling by hydraulic pressure. The 'drawing-frames' and 'roving-frames,' in which each sliver is drawn out to many times its own length, complete the process of preparation. A length of 11,100 yds. of J. yarn is called a 'spynole,' which in fine qualities weighs only 2½ lb. But a 'spynole' of coarse yarn may weigh as much as 10 lb. J. spinning is very similar to flax-spinning.

For statistics see *Indian Year Book*. See also the various works of T. Woodhouse alone or in conjunction with other writers; notably T. Woodhouse and T. Milne, *Jute and Linen Weaving Mechanism* 1914; T. Woodhouse, *Yarn Counts and Calculations*, 1921; T. Woodhouse and J. Ireland, *An Introduction to Jute Weaving* (Dundee), 1922; also Sir G. Watts, *Dictionary of the Economic Products of India*, 1889 93.

Jüterbog, tn. in Brandenburg, Germany, 39 m. S.S.W. of Berlin. In 1643 the Swedes here defeated the Imperialists. Near by is Dennewitz, where Bulow defeated the Fr. (1813). Pop. 8000.

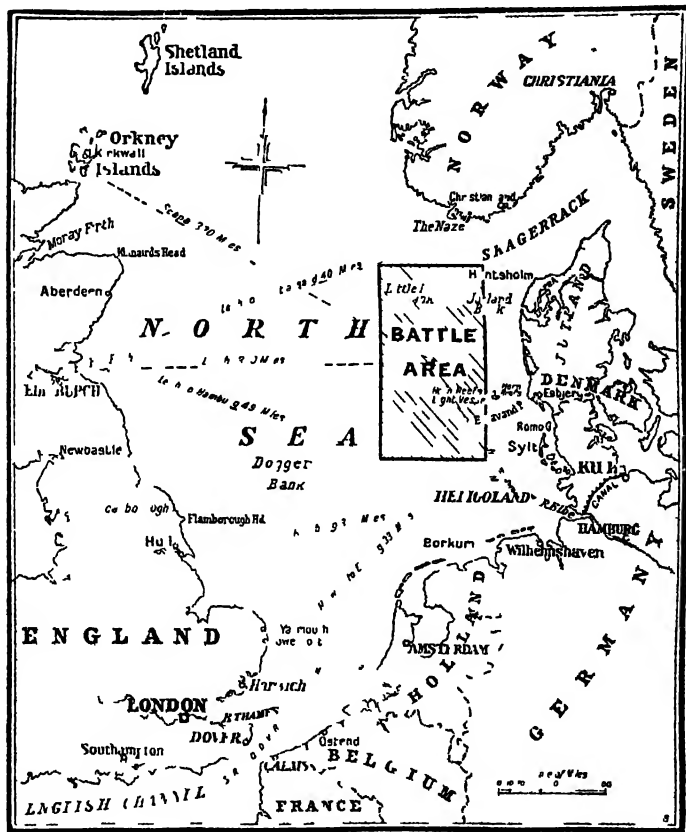
Jutes, Teutonic nation who seem to be the ancestors of the present inhabs. of Jutland, though this is a matter of much speculation. Invaded England with the Angles and Saxons in the fifth century and settled chiefly in Kent.

Juticalpa, tn. in Honduras, cap. of Juticalpa dept., 120 m. N.E. of Tegucigalpa. The tn. deals in agric. produce and cattle and near by are gold mines. Pop. 3800.

Jutland (Dan. Jylland), N. and Dan. portion of the peninsula which extends northward to the Skaw headland (Skagerrak) from a line drawn from Lubeck to the mouth of the Elbe. Separated from Sweden by the Categat and from Norway by the Skagerrack, it is almost cut in two by the Limfjord (100 m. long). The Little Belt, the strait, that is between J.

and Flöken, connects the Baltic and N Seas. J and Lüneburg are linked by the Little Belt bridge. Irrigation, tree plantations, and cultivation of the fens, etc., are fast transforming the heath and sand of the interior into arable land. J has an area of 11,400 sq m, and a pop. of

was planning an offensive against the long coast with the aim of drawing the Brit fleet over a prepared ambush of submarines. The elimination of the High Seas Fleet at this time would have been an important easement to Great Brit, but it would not have had a decisive



THE SCENE OF THE BATTLE OF JUTLAND

The Times

1,753,100. The chief ports are Aarhus (107,300), Aalborg (60,800), Esbjerg (13,200), Hørens (12,100), and Randers (36,400). See DENMARK.

Jutland, Battle of. Fought between the Brit and Ger fleets on May 31, 1916, off the W coast of Jutland. During the last week in May there had been indications that the cautious and timid tactics previously imposed on the Ger Navy were now to be abandoned, that Adm. Scheer

effect on the war. On the other hand, ruin would have overwhelmed the allied cause had the Brit fleet been destroyed. It was, therefore, not surprising that the subsequent tactics of Adm. Jellicoe (in the words of Mr. Churchill he 'was the only man on either side who could lose the war in an afternoon') should have been governed by a measure of caution.

On the evening of May 30, both fleets put to sea, the Ger. consisting of twenty-

two battleships, five battlecruisers, and numerous cruisers and destroyers. By dawn on the 31st Jellicoe had concentrated twenty-four battleships, three battlecruisers, with cruiser squadrons and destroyer flotillas in the Long Forties, 65 m. ahead was Adm. Beatty with six battlecruisers, four battleships (Fifth Battle Squadron), light cruisers and destroyers. All were steaming towards the Heligoland Bight and, if nothing was sighted by 2.0 P.M., it had been decided that the fleet should retire. The hour to turn arrived and Beatty had actually altered course to the N. when the cruiser *Galatea*, reconnoitring to the E., suddenly reported: 'Enemy in sight.' About 8 m. away she had sighted a steamer being molested by two strange vessels which turned out to be the leading torpedo boat destroyers of the Second Ger. Scouting Group. Fire was opened. Beatty turned his squadron at once to the S.E., but by the time the Fifth Battle Squadron had turned they were 10 m. astern. At 3.20, five Ger. battlecruisers under the command of Adm. Hipper were sighted. They immediately turned about in order to draw Beatty towards the High Seas Fleet of whose existence he was not aware. Both sides deliberately converged and fire was opened at 3.45. At 4.0 P.M. the *Indefatigable*, after 12 min. action with the *Von der Tann* blew up and sank almost without survivors. 26 min. later the *Queen Mary*, smitten amidships by a salvo from the *Derfflinger*, burst into flames, capsized and exploded. With the *Lion* (Beatty's flag-ship) in flames, a salvo struck the *Princess Royal* and Beatty remarked to his Flag Capt.: 'Chatfield, there seems something wrong with our bloody ships to-day. Turn two points to port' (i.e., towards the enemy). The crisis was past. As Brit. shells took effect, the Ger. fire became ragged and the Fifth Battle Squadron was now in action with Hipper's rear. At 4.33 the cruiser *Southampton*, scouting ahead, suddenly sighted the Ger. High Seas Fleet hastening to Hipper's support, and Beatty instantly turned to steam back towards Jellicoe. With support at hand, Hipper turned also and now began the 'Run to the North.'

Meanwhile, the Grand Fleet with Jellicoe flying his flag in the *Iron Duke* was steaming S.E. at 20 knots through mist curtains which were beginning to hang over the sea. Jellicoe, himself, was in a haze of uncertainty due to conflicting reports about the enemy's position. He was prepared to accept battle on his own terms; he was not prepared to face one at a serious hazard and, in the poor visibility, numerical superiority was not necessarily an advantage. So, uppermost in his mind was the question: 'Where is the enemy battlefleet?' No one could tell him. Thus, at about 5.30 the forces at Jellicoe's disposal were in the form of a huge crescent. Its S.W. horn consisted of Beatty's detached squadron engaged with Hipper and retiring on the Grand Fleet; its N.E. horn composed of Adm. Hood in the *Invincible* with the Third Battlecruiser Squadron curving round to

the S. Flung out ahead of the Grand Fleet were cruisers. Into the centre of this crescent Hipper's battlecruisers and the Second Ger. Scouting Group (commanded by Boedicker) were plunging. Further astern was the High Seas Fleet.

At 5.20 the cruiser *Chester*, reconnoitring for Adm. Hood was suddenly overwhelmed by the Ger. Second Scouting Group as it emerged from the mist, but, shortly afterwards, Hood with his three battlecruisers bore down on the enemy and severely crippled three Ger. light cruisers. Boedicker and Hipper, realising that they were being surrounded by superior forces, turned about and fell back on the High Seas Fleet and, during this movement the cruiser *Defence* suddenly found herself facing Ger. battlecruisers. Struck by a succession of shells she blew up. At this moment the *Lion*, much to Jellicoe's surprise as he had imagined Beatty to be much further to the E., came in sight of the *Iron Duke*. It transpired that the cumulative error in their relative positions amounted to 11 m. Instantly Jellicoe flashed the message: 'Where is the enemy battlefleet?' But no one knew. Finally, at 6.10 the *Barham*, leading the Fifth Battle Squadron, passed the vital information. But her report placed the leading Ger. battleship 3 m. nearer the Grand Fleet than was, in actual fact, the case.

Deployment was now imperative and, at 6.10 the much criticised order to deploy on the port wing column was carried out. Beatty, tearing across the front to take station in the van, obscured the already hazy atmosphere with smoke, while Hood wheeled into line ahead of Beatty. The Grand Fleet had now deployed into a single line between the enemy and his base. At 6.31 a salvo from the *Derfflinger* smote the *Invincible* which blew up and sank with only six survivors. Scheer, now under heavy fire and considering himself about to be enveloped turned his fleet four min. later, each ship turning simultaneously, and made off westward. At the same time he launched a destroyer flotilla to cover his retirement with smoke and a torpedo attack. Jellicoe turned away and the fleets fell rapidly apart. Twenty min. later, Scheer again turned to the E. hoping to cross astern of the Brit. line. Instead, he ran into the centre. As the Ger. ships emerged from the mist all the Brit. battleships opened a terrific fire on them. The *Seppeltitz* burst into flames, the *Lutzow* reeled out of line and Scheer again executed his manoeuvre, all ships turning together towards the W. at 7.17. By luck, a Ger. massed torpedo attack synchronised with this second turn away and forced Jellicoe to alter course in the opposite direction—to the E. The fleets separated and Scheer vanished into the mist. Abortive efforts were made by the Brit. battlecruisers to keep contact, but the mist was thickening, darkness was falling and the Brit. fleet, at that time, had never considered night action, or trained for it. Meanwhile, Scheer brought his fleet round to a S.E. course. His plan was simple: to go home as fast as he could by the shortest route, i.e., via the Horns

Reef. Jellicoe imagined he would go for the Enns and sought a favourable position to renew the fight at daybreak. Destroyers were ordered to take station 5 m. astern of his line.

At 10.30 the Fourth Ger. Scouting Group had a brush with the Second Light Cruiser Squadron on the starboard quarter of the Grand Fleet during which the Ger. cruiser *Frauenlob* was sunk. An hour later the High Seas Fleet crashed into the Fourth Destroyer Flotilla. *Tipperary* and *Broke* were disabled; the *Spitfire* collided with the battleship *Nassau* and the *Sparrowhawk* collided with the injured *Broke*. The Ger. cruiser *Elbing*

whereas no such disasters had befallen the Germans, and, while Brit. gunnery was fully equal, if not superior to, the Ger., the quality of Ger. shell was undoubtedly superior. These defects in shell were only made good two years later.

The casualties were: Brit. killed, 9049; wounded, 510; Ger. killed, 2545; wounded 481. In addition to the ships listed in the table below, the *Ostfriesland* was struck by a mine but reached harbour; *Seydlitz* received about 21 hits (heavy shell) and was also hit by a torpedo fired by *Petard*. *Derfflinger* received some 17 hits. According to Ger. accounts *Seydlitz* was almost sinking and had to be

LIST OF SHIPS SUNK (AS PUBLISHED BY BOTH BRITISH AND GERMAN OFFICIAL PUBLICATIONS)

Class of Ship	British		German	
	Name	Tonnage	Name	Tonnage
Battleships . . .	—	—	<i>Pommern</i>	13,200
Battle Cruisers . . .	<i>Indefatigable</i>	19,050	<i>Lutzow</i>	26,700
	<i>Invincible</i>	17,530		
	<i>Queen Mary</i>	27,430		
Cruisers . . .	<i>Black Prince</i>	13,750		
	<i>Defence</i>	14,800		
	<i>Warrior</i>	13,750		
Light Cruisers . . .	<i>Tipperary</i>	1,900	<i>Wiesbaden</i>	5,600
			<i>Frauenlob</i>	2,700
			<i>Elbing</i>	4,400
			<i>Rostock</i>	4,900
Destroyers . . .	<i>Ardent</i>	950	<i>S 35</i>	650
	<i>Fortune</i>	965	<i>F 27</i>	650
	<i>Neser</i>	1,000	<i>F 29</i>	650
	<i>Nomad</i>	1,000	<i>F 43</i>	1,160
	<i>Shark</i>	950	<i>F 44</i>	570
	<i>Sparrowhawk</i>	950		
	<i>Turbulent</i>	1,000		
		115,025		61,180

was rammed and disabled by a consort and the *Rostock* was torpedoed. Shortly after midnight the heavy cruiser, *Black Prince*, suddenly found herself within 1600 yards of the Ger. battle squadron and was instantly blown to pieces. There were no survivors. At 1.45 the head of the Ger. line, now on the port quarter of the Grand Fleet cut into 3 Brit. destroyer flotillas. The last contact was at 2.10 when the Twelfth Flotilla destroyed the cruiser *Pommern* and sank a Ger. destroyer. That was the end of the fighting and, when dawn broke, there was no enemy in sight.

Incredible though it may appear, Jellicoe was totally unaware of the events taking place during the night which indicated the movements of the enemy. No ship made a single report to him. The Brit. navy felt that only bad luck had robbed them of complete victory. Though full of faith in its fighting prowess there was, however, a loss of confidence in materiel. Three capital ships had blown up with practically no previous damage,

beached. *König* was struck by about a dozen heavy shells, and the *Grosser Kurfürst* by eight.

See Ger. Official Hist. (Nordsee, Vol. v.); Sir J. Corbett, *Naval Operations* (Official Hist.), Vol. III, 1923; *Official Narrative of Jutland* (H.M. Stationery Office), 1921; also Sir J. R. Jellicoe, *The Grand Fleet*, 1919; R. Scheer, *Germany's High Sea Fleet in the World War* (trans.), 1920.

Juvenal, or Decius Junius Juvenalis (c. A.D. 60-c. 140), Rom. satirist, was the son of a well-to-do freedman of Aquinum. His personal hist. is almost a blank, but the following are likely conjectures. After receiving a liberal education he devoted some time to the study of eloquence. Late in life he developed his genius for satire and incurred the displeasure of the Emperor Domitian by his contemptuous reference in the seventh satire to Paris, the pantomime dancer and court minion. There are also substantial grounds for believing that he once commanded a Dalmatian cohort, that he sojourned in

Egypt, perhaps as an exile, and that he lived on to the reign of Antoninus Pius (A.D. 138-161). His *Satires*, sixteen of which are extant were pub. under Trajan and Hadrian. J. had learnt a lesson from Paris, and wisely husbanded his scathing portrait of the odious Domitian till after that emperor's death. It is a brutal, often disgusting vivid picture that the poet draws of the vicious Rom. society of his day. The third satire, which is an Hogarthian painting of the metropolis, appeals the reader with the glare and variety of its colours, whilst the sixth, which may well be called the 'Legend of Bad Women,' displays to the full the grimness of the writer's humour, the remorselessness of his crude realism, and the sincerity of his spiritual revolt against the immoralities of the age, so that the truth of his own statement, 'Facit indignatio vorum,' is obvious. Like Swift, J. often descends to filth and indecency, and it must be confessed he was far too prone to verbal luxuriance and gaudy rhetoric. Yet at his best he writes with a style as vigorous and trenchant as Tacitus, and his verses are replete no less with the learning of a patient scholar than the worldly knowledge and wisdom of an anet. Machiavelli. The first nine satires are at the same time the finest and most virulent. His other poems reveal greater forbearance, loftier sentiment, but also a falling-off in power. Among the best known annotated eds. are the Fr. ed. by N. L. Achaintre (1810), K. F. Heinrich (1839) and A. J. Maclean's (*Juvenal and Persius*), 1857.

Juvenile Offenders. The policy of the modern criminal law of England is to remove J. O. as far as possible from the contaminating influence of adult criminals and the atmosphere of the police or other ordinary criminal courts. With this object the Children and Young Persons Act, 1932, re-enacting and amending the Children Act, 1908, provides for 'juvenile courts' to hear charges against J. O. (persons under seventeen years of age). A juvenile court must sit in a different building or room from an ordinary court, or, if in the same place, then on different days. A court of summary jurisdiction (*q.v.*), before whom a child is charged with an indictable offence, other than homicide, may deal with the case summarily, by fine up to forty shillings and, in the case of a male, private whipping with six strokes of the birch rod administered in the presence of a police officer and, if he wishes, of his

parent. Any Court which convicts a J. O. of an offence punishable, if committed by an adult, with imprisonment, may order him to be sent to an 'approved school,' or committed to the care of any fit person or under the supervision of a probation officer. These various alternatives are also open to a juvenile court in the case of a J. O. who is proved by a constable or local authority to be beyond control; but where the constable or local authority acts, the court may order the parent to enter into a recognisance to exercise proper care. Any court may remit a J. O. to a juvenile court and there is no appeal from the remission. Sentence of death may neither be pronounced nor recorded against any person under eighteen years of age. It is a conclusive legal presumption that no child under the age of eight is guilty of any offence.

In no country in the world has the question of J. O. caused more study and discussion than in the U.S.A. This has been due in part to the attention centred on it by the persistent efforts of Judge Ben Lindsey of Denver (*q.v.*), and in part to the psychiatric clinics. The conviction has steadily grown in the U.S.A. that juvenile criminals are more the result of evil environment and upbringing than of heredity. For this reason special juvenile courts have been set up in most of the big cities, and the offenders are sent to reform schools and institutions. While under a certain measure of restraint, the inmates, mostly under sixteen years of age, are taught self-help and the straight path, and are mainly released after two or three years at the most. An attempt is made to teach them some trade by which they can earn an honest living, and often they are compelled for a time to report to an officer of the juvenile court. See also CRIMINAL LAW—Criminal Justice Act, 1948.

Juventus, Celsus. see CELSUS.

Juvena, see HIBERNIA.

Juxon, William (1582-1663), archbishop of Canterbury, was educated at Oxford. In 1609 he became vicar of St. Giles, Oxford, and about 1614 rector of Somerton. Among the other appointments that he held were those of president of St. John's College (1621), vice-chancellor (1626), dean of Worcester, bishop of London, and Lord High Treasurer. He was a staunch adherent of Charles I., after whose death he was deposed from office. On the accession of Charles II., however, he was made archbishop of Canterbury.

K

K, the eleventh letter of our alphabet, is a back voiceless stop or guttural tenuis, produced by a closure between the back surface of the tongue and the velum. The original N. Semitic *kaph* was written \aleph or \aleph . The Gk. *kappa* was originally written \aleph , > \aleph (like the Semitic alphabets, the earliest Gk. alphabet was written from right to left). The Gks. had two signs for the *k*-sound, the \aleph and the \aleph . The Etruscans, who took over the Gk. alphabet, did not know the distinction between *g* and *k*, employed the Gk. *gamma* (which they wrote \aleph , i.e. the reversed \aleph ; also they wrote from right to left), both for *g* and *k*; they had, therefore, three signs for the sound \aleph , i.e. \aleph (= \aleph), used only before *e* and *i*, \aleph , used before *a*, and \aleph , employed before *u* (they had no *u*). The Lat. alphabet, derived from the Etruscan, adopted all the three letters (\aleph , \aleph , \aleph), with their phonetic values, but in time it dropped the \aleph (it was retained, however, in a few well-known or official words, such as *calendar*), and retained the sign \aleph for the *k*-sound followed by *u*. In late Lat. MSS. *k* was sometimes employed to represent the hard sound of *c* before palatal vowels, *e*, *i*, *y*. *k* does not occur in O.E., but in early Middle Eng. MSS. it is used as a variant of *c*.

In Middle Eng. *c* had the hard sound of *k* before *e*, *i*, where these were originally guttural vowels. After the Norman Conquest words of Fr. origin came in use in which *c* had the soft sound of *s* before *e*, *i*. For the sake of clearness the words of native origin were written with a *k*; cf. O.E. *cynn*, *cynig*, Mod.E. *kin*, *king*, and Fr. *cit*, Mod.E. *city*. In O.E. *c* had the hard guttural sound initially before consonants. In Middle Eng. *c* was written as *k* before *n* and became silent, e.g. O.E. *cniht*, Mod.E. *knicht*. In Mod.E. there are many words of Scandinavian origin with initial *k*, e.g. *key*, *kilt*, *kirk*, and many foreign words have been introduced, e.g. *koran*, *kangaroo*.

Kaaba, or **Ka'aba** (Arabic, 'chamber'), sacred shrine in the Great Mosque at Mecca. It stands at the centre of the court, is 38 ft. high, 40 ft. long, and 30 ft. wide. Its peculiar sanctity is due to the Black Stone, which is fixed in the N.E. angle. This stone, which is oval in shape, and from 6 to 7 in. in diameter, was venerated in Arabia even before the time of Mohammed, and it is kissed by every Muslim making the pilgrimage. The present *K.*, built in 1026, reproduces the primitive idol temple venerated in Mohammed's day. Mohammed declared that the angel Gabriel gave the stone to Abraham. The *K.* is covered with a cloth of black brocade, replaced annually.

Kaspland, see CAPE OF GOOD HOPE PROVINCE.

Kaarta, dist. of Fr. W. Africa, on the r. b. of the R. Senegal, with rice, maize, and ground-nut cultivation. Cap. Niore. Pop. about 400,000.

Kabardin, autonomous republic of the R.S.F.S.R. in the N. Caucasus. Cap. Nalchik.

Kabba, former prov. of N. Nigeria, now part of the prov. of Ilorin. It lies on the r. b. of the Niger, and covers an area of 7800 sq. m. It is fertile and well cultivated, and good crops of tobacco, indigo, wheat, and cotton are obtained. Other products are rubber, shea, and palm oil. The chief tns. are Lokoja (ceded to the Brit. in 1841), and Kabbu, a Brit. military station.

Kabbala, see CABALA.

Kabinda, see CARINDA.

Kabul, city, cap. of Afghanistan, on the K. R., 80 m. N.N.E. of Ghuzni, at the foot of the Takht-i-Shah Hills, and also the name of a major prov. of Afghanistan. It is of great antiquity, and was formerly walled. It is an anc., largely mud-built city, but is progressing. The K. Univ. was estab. in 1932; but only a medical faculty exists. It is memorable in modern hist. for the massacres of the Brit. and its capture by Gen. Roberts. It is well situated, has a splendid water supply, and is noted for its fruit. The high court of K. is the supreme judicial authority of Afghanistan. Situated at the junction of sev. central Asiatic trade routes, its commerce is extensive, especially in carpets, camel's hair, cloths, and all kinds of skins. There are gov. factories and workshops designed partly for public in (reduction in mechanical appliances. Pop. (estimated) 1,000,000. See Rosita Forbes *Forbidden Road - Kabul to Samarkand*, 1937; and Maud Dyer, *Kabul to Kandahar*, 1935.

Kabul River, rises in the Hindu-Kush, flows E. through Kabul and Jalalabad, and joins the Indus at Attock. It is 270 m. long.

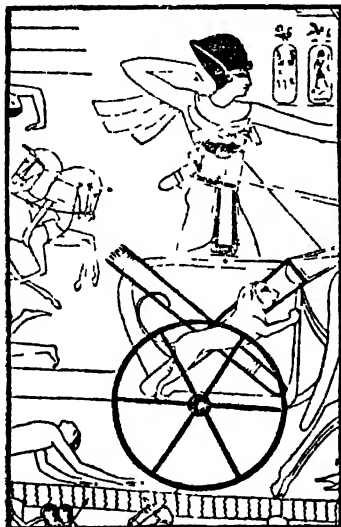
Kabushan, see KUCHAN.

Kabylos, name given to a collection of tribes of N. Africa, chiefly in Algeria, and whose members are of the Berber race. The men frequently serve as Fr. soldiers, the famous Zouave regiments taking their name from the most common dialect of the K. See also BERNI.

Kach, see CUTCHI.

Kadesh, name of sev. places in Palestine, and signifies consecrated. *K.* or *K. Barnea* was the resting-place of the Israelites before entering the Holy Land, and was the scene of the people's demand for water, whence it derived its new name, Meribah *K.* It is named in the story of Abraham (Gen. xiv. 7; *En Meshpat*, 'spring of judgment,' id. xvi. 14). Here Korah (q.v.) headed the revolt against

Moses; Miriam d. here; and the water which had failed was miraculously restored (Num. xvi. xx.). Ain Qadis, about 50 m. S. of Beersheba, seems to meet all the requirements of the narrative and must always have been a centre of meeting for the tribes wandering over the wide wilderness. Some have identified it with Petra, the ruins of which lie in a great hollow among the cliffs of Edom at the base of Jebel Harun, about 50 m. S. of the Dead Sea. Mention is also made of two places called K. in I Chron. vi. 72, 76. One was the K. 'out of the tribe of Issachar,'



RAMSES II. IN HIS CHARIOT AT THE BATTLE OF KADISH

whilst the other was the K. 'in Galleilee, out of the tribe of Naphtali.' K. (or Qadesh) is also the name of an anc. city on the Orontes in Syria, scene of the battle between the Kheta (or Khita) and Ramses II. of Egypt. See further under HITTITES.

Kadi, see CADT.

Kadijah, wealthy widow and wife of the prophet, Mohammed, who had been her steward and *fat* totum, and was twenty-five years of age when he married her, she being forty. She is said to have been the first person to express her belief in his prophetic mission.

Kadikou, see CHALCEDON.

Kadina, tn. of S. Australia, on the Yorke Peninsula, 91 m. from Adelaide. The discovery of copper in the dist. gave birth to the tn. but the mines were closed in 1923. It is the centre of a rich wheat-growing dist. It has a high school and technical school. There are also a race-course and a trotting track. Pop. 5000.

Kadur, dist. of Mysore State, S. India. Area 2700 sq. m. Pop. 350,000.

Kadzand, see CADZAND.

Kaempfer, Engelbrecht, see KÄMPFER, ENGELBRECHT.

Kaffa, trib. state in the Galla country, forming part of Abyssinia. It consists of a large plateau, and is partly drained by the R. Omo. It is regarded as the native home of the coffee plant, which grows there abundantly.

Kaffirs. The K. and cognate tribes are a bold, warlike people spread over a considerable part of S. Africa between Delagoa Bay and Cape of Good Hope, but more especially the E. part of the prov. The Arabic word *kāfir* signifies unbeliever, and the name was applied to them by the Muslims, because they would not be converted to Islam. Ethnically the K. proper are a Bantu tribe quite distinct from the negroid type, being a race of a much higher order of intelligence; but they have, especially farther N., become much intermingled with the Negroes. Historically the K., before the occupation of their territory by the Brit. administration, were by no means a race of untutored savages, of no political pretensions, but could boast innumerable distinct national dynasties which have given them names, to the various tribes reputed to have descended from the real or eponymous ancestry of Zulu, at or about the end of the fifteenth century. The K. formerly did not evince any particular fondness for either pastoral or agr. pursuits, but have now for years been notable for their large herds of cattle. The Bechuana breed of cattle are commercially valuable, and are remarkable for horns of a tremendous span, which made them formidable animals for purposes of war. The ter. occupied by the K. is officially designated the Transkeian ter. The Transkei is bounded on the N.W. by the Drakenberg and Stormberg Mts., on the E. by the Umzimkulu R. and Basutoland, on the N.E. by Natal, and on the S. by Cape of Good Hope; and since 1894, when Pondoland was incorporated, has been divided for administrative purposes into Griqualand E., Tembuland, Transkei, and Pondoland.

Both the Eng. and the Dutch colonists in S. Africa have cause to know the warlike qualities of the K. In the process of colonisation the Europeans and natives necessarily came into frequent collision. Towards the end of the eighteenth century it was agreed between the K. and the colonists that the Great Fish R. should form the boundary between their respective territories; but for over forty years the K. were constantly breaking over the border and surprising the colonists. Col. (afterwards Sir Harry) Smith gained a decisive victory after reaching Grahamstown in 1835; but the vacillating policy of the home gov. towards the K. opened the way to fresh outbreaks, and in 1852 Sir Harry Smith again brought success to the Brit. arms, storming the Amatola Mts. with but scanty forces. Peace reigned for a quarter of a century, when the hereditary enmity between the different Kaffir tribes themselves necessitated further repressive

measures. The last Kaffir war broke out in 1877. It is only within recent years that the extensive ter. comprising the Zulus, Bantus, Hottentots, Swazis, and Pondos can be said to have enjoyed a measure of peace of any permanent promise. Most of the 'Kaffirs' (and Zulus) were ultimately assigned land in reserves and locations, where to some extent they retained their tribal organisation, but this has not solved the problem created by their entry as wage-earners into European agriculture and industry. The differential legislation which regulates the position of the native in his relations with the European community covers nearly every aspect of social and economic life. The



KAFFIR

Representation of Natives Act, 1936, disfranchised all natives of the Union of S. Africa, and provided for their direct representation in the Senate and for the estab. of a Natives' Representative Council. See also KAFFRARIA. See F. Fleming, *Kaffraria and its Inhabitants*, 1853; G. McCall Theal, *History of South Africa*, 1887-91; S. J. du Toit, *Rhodesia Past and Present*, 1897; W. H. Brown, *On the South African Frontier*, 1899; H. Rogers, *Native Administration in the Union of South Africa*, 1933; E. H. Brookes, *The Colour Problem of South Africa*, 1934, and *History of Native Policy in South Africa*, 1927; Lord Hailey, *An African Survey*, 1938; and S. W. Silver, *Handbook of South Africa*, 1875.

Kaffraria is a term loosely applied to the whole of the regions occupied by the various K. tribes, but it is better to confine it to Brit. K. and K. proper, though even these latter names are fast becoming obsolete. Brit. K., which is now known as the Ciskei, and K. proper extend, the former from the Keiskama R. to the Great Kei R., the latter from the Great Kei to Natal. Embracing an area of some 22,000 sq. m., they comprise an extremely

fertile region, lying near the coast, abundant in forests, rivs., and mts. Grain and cattle are produced. Native pop. about 817,000. Brit. K. became a separate prov. in 1847, after the Kaffir war; in 1865 it was incorporated into Cape Colony. In 1873 the Scottish Episcopal Church founded in K. the diocese of the Independent (K.) St. John's. K. proper is composed of the native ters. of Transkei, Tembuland, Pondoland, and Griqualand E. See also KAFFIRS.

Kafka, Franz (1883-1924), Austrian novelist, b. in Prague on July 3 of Jewish parents. His youth and indeed his whole life were overshadowed by the dominant personality of his father. The conflict with authority, and at the same time the urge to placate authority and receive its recognition, found expression in his work as a novelist. His best novels, *Der Prozess* (1925, Eng. trans. *The Trial*, 1937); *Das Schloss* (1926, Eng. trans. *The Castle*, 1930); and *Amerika* (1927, Eng. trans. *America*, 1938), are spiritual autobiographies, portraying in allegory borrowed from dream, and bordering on nightmare, the isolation of the human soul in its attempt to come to terms with a world regulated by laws he cannot understand. These three novels were unfinished at the time of his death. Comparatively little was pub. during his lifetime. It may be suggested that K., a student of psycho-analysis deliberately constructed his novels upon the framework of psycho-analytical theory, consciously employing the symbols and imitating the processes of the unconscious as brought to light by Freud. After taking his doctorate in jurisprudence at the Ger. univ. of Prague in 1906, he became a gov. clerk in the Workers' Accident Insurance Institute. Writing he regarded as a sacred vocation, a 'form of prayer.' His first pub. work (1913) was a collection of short stories, *Betrachtung* ('Observation'). *Der Heizer* ('The Stoker'), afterwards the first chapter of *Amerika*, and *Das Urteil* ('The Sentence') appeared in periodicals the same year, and were pub. in Leipzig in 1916. The following year tuberculosis developed, but it was not until the last year of his life, in 1924, that he went into the sanatorium at Kierling, where he d. *Die Verwandlung* (Eng. trans. *The Metamorphosis*, 1937) was pub. before his death, and also 2 vols. of short stories. A posthumous collection of stories, *Ein Hauch der chinesischen Mauer* (Eng. trans. *The Great Wall of China and other Pieces*, 1933) was pub. in 1931. His reputation was also increased by the miscellaneous writings, letters, and journals, collected and pub. by his friend, Max Brod, in 6 vols., *Gesammelte Schriften* (1935-37). K.'s work showed throughout the influence of Jewish folklore and theological writing. In his later years he entered into the life and work of the Berlin Jewish People's Home. To this period (1923) belongs his close friendship with Dora Diamant, the daughter of a Polish Jewish family, who was studying Heb. in Berlin. She remained with him during the last year of his life. K.'s *Diaries* have been ed. by Max Brod, and trans. into

Eng. (vol. i., 1918, vol. ii., 1949). See also life by Brod (trans. 1937); H. Tauber, *Franz Kafka, an Interpretation of his Works* (trans. 1948); and C. Neider, *Kafka: His Mind and Art*. 1949.

Kagoshima: 1. Prov. of Japan in Kiusiu Is.; pop. 1,591,400. 2. Cap. of K. prov., on a bay in S. of Kiusiu Is., 90 m. S.S.E. of Nagasaki. It has a harbour and lighthouse, manufactures pottery in imitation of 'old Satsuma' ware, cottons, silk, glass, arms, and cigarettes. It was bombarded by the Brit. in 1863, and headed the Satsuma rebellion in 1877. Pop. 181,700.

Kaleleur, or Kaiteur, Falls, cataract of Potaro R., a trib. of Essequibo R. in Brit. Guiana. The riv. falls nearly 500 ft. See further under ESSEQUIBO.

Kaifeng, K'aifeng, Kaifung, or Khai-fong (formerly Pienliang), cap. of Honan prov., central China, 10 m. from the Yellow R. It was the cap. of the Sung dynasty (A.D. 960-1279), and of the empire (1280-1405) as 'Tung-king.' It has possessed a Jewish colony since 1183. Chuchonchen, near by, is one of the chief Chinese marts. Pop. 450,000.

Kailas, spur of the Himalayas, W. Tibet (22,000 ft. high), the sacred 'Paradise' or 'Olympus' of the Hindus. It is between the N. chain of the Himalayas and the Gangri Mts., N.W. of Lake Manasarovar. The Indus, Sutlej, and Brahmaputra rvs. rise from it.

Kailin, see CAILIN.

Kails, see SKITTLES.

Kailyard School, name given to the Scottish writers of sentimental stories of humble, and particularly peasant life, told largely in dialect. The name was originally applied by J. H. Miller in reference to the song *'There grows a bonny briar bush in our kailyard'*. In this category are generally included J. M. Barrie—for his *Auld Licht Idylls* (1888)—and (especially) the novels of 'Ian Maclaren' (John Watson) and S. R. Crockett. The K. S. was short-lived, and it is generally agreed that this somewhat mawkish school of fiction received its death-blow from George Douglas Brown's *The House with the Green Shutters* (1901). For this book, if it set no fashion, certainly had a great influence among younger writers, and even in America, the home of sentimentality. When Andrew Lang asked Brown why he did not show the better side of Scottish peasant life the answer was 'The other fellow did that'—the 'other fellow' being Ian Maclaren, author of *The Bonnie Briar Bush*. It was not, however, to correct Maclaren's picture of Scotland that Brown wrote his novel; it was to complete it; for Brown held that Maclaren's picture of peasant life was partial and untrue to life in that it gave no hint of the malignancy, the hard drinking, and the coarse language that were as much in evidence in Scotland at the time as the undoubted piety and nobility of character there.

Kain, or Qain: 1. Sub-prov. in E. Persia (Iran), in the prov. of Khorasan, an agric. dist. The chief products are carpets, skins, almonds, spices, silk, and opium. Cap. Birjand. Pop. about 200,000. 2.

Tn. in above prov., 60 m. N. of Birjand, was formerly important as a fortified stronghold. Pop. 5000.

Kainite, deliquescent crystalline substance whose formula is $KCl \cdot MgSO_4 \cdot 3H_2O$. It is found in the deposits at Stassfurt (Germany) together with many other salts which owe their origin to the drying up of an inland sea, or salt-water lake. Another locality is Kalusz on the E. Carpathians. K. is used as a fertiliser, and as a source for the preparation of magnesium and potassium compounds, though it is of less importance than carnallite. $KCl \cdot MgCl_2 \cdot 6H_2O$, also found in the Stassfurt deposits.

Kainsk, tn. in the Novosibirsk region of the R.S.F.S.R., on the Trans-Siberian Railway, N.W. of Omsk. Centre of a cattle-rearing and agric. area.

Kaira, or Kheda, tn. 20 m. S.W. of Ahmedabad, in Bombay, India. It is at least as old as the fifth century A.D. Pop. 7400. Rice, cotton, and millet grow in plenty in the fertile dist. of K., which is watered by the Mahi in the S., and the Sabarmati in the W. Area 1600 sq. m. Pop. 691,700.

Kairoan, or Kairwan (Qairwan), city of Tunis, 30 m. S.W. of Sfax, is an ancient holy place frequented by Moslem pilgrims. It has a citadel and numerous mosques. It was taken by the Fr. in 1881. The caravan trade is considerable; the chief articles of commerce are carpets, Morocco-leather goods, and copper wares. Pop. 22,900 (chiefly Arabs). See G. Margais, *Coup d'oeil et plans de la grande mosquée de Kairoan*, 1925.

Kaisarieh, or Kayseri: 1. Tn. in the vilayet of the same name in Asiatic Turkey, situated 160 m. S.E. of Ankara. Pop. about 40,000. 2. Palestine (Kai-ari-eh), see C. SAMARIA.

Kaisar-i-Hind, 'Cesar of India': title applied to Queen Victoria, and subsequent Brit. monarchs as emperors of India.

Kaiser (Lat. Caesar), name given to the emperors of the old Holy Rom. Empire, and of the rulers of the Ger. and Austro-Hungarian empires before the First World War (1911).

Kaiser, Georg (1878-1945), Ger. dramatist, b. at Magdeburg, and educated at the gymnasium there. Began to earn his living at Buenos Aires in an electrical undertaking, but ill health compelled his return to Germany. His earliest dramatic pieces were farces, but he soon found his true bent lay in serious plays turning on social problems. He is recognised as a disciple of the Expressionist school, dealing with types and making much use of allegory. His work shows the influence of Wedekind. Plays: *Rektor Kleist* (1905); *Die jüdische Willur* (1911); *König Hahnrei* (1913); *Von Morgen bis Mitternacht* (1916, an expressionistic drama on the theme of *The Race's Progress* or an old morality play, Eng. trans. 1920); *Die Sorina* (1917); *Die Versuchung* (1917); *Gas* (2 parts, 1918, 1920), one of the best known expressionist plays, illustrating the domination of man by machines of his own devising, a subject also treated in Capek's *R.U.R.* (Eng. trans. 1924); *Der Brand im Opernhaus* (1918); *Hölle, Weg, Erde* (1919);

Europa (1919); *Die Flucht nach Venedig* (1923); *Kolportage* (1924); *Nebe Konstantin Strobel* (1925); *Papiermühle* (1926); *Zweimal Oliver* (1927); *Die Lederkopfe* (1928); *Oktoberfest* (1928); *Hellscherer* (1929); *Es ist gnuq* (1932); *Der Soldat Tanaka* (1940); and *Zweimal Amphitryon* (1943). See study by B. Diebold, 1924.

Kaiser, Henry John (b. 1882), Amer. shipbuilder and general contractor, b. at Sprout Brook, New York; son of a Ger. immigrant. At thirteen he walked the streets of Utica seeking work. At sixteen he was cash boy in a dept. store; then a shipping clerk and, later, clerk in a hardware company; then a gravel and cement dealer. By 1914 he had his own company with a large contract for road paving in Brit. Columbia. Two years later the company had million-dollar contracts in Washington and California. He was sponsor to the building of the Boulder and Bonnaville dams, and also to the Grand Coulee dam, the Vancouver drydock, Long Beach and Los Angeles breakwater, and Grays Harbor jetties, Washington. Also created industrial operations all his own, of which the most important is the Permanente Cement Company, San Francisco. But his outstanding achievement was in shipbuilding during the Second World War at his yards in Richmond. During the war the peak of employment there was 91,000 men. He built mostly Liberties and Victories, to an aggregate tonnage of 7,000,000, or 20 per cent of the entire Amer. production of merchant shipping. Also turned out combat ships, including small aircraft carriers. After the war he added to his enterprises the manuf. of motor cars.

Kaiserslautern, tn. of the Bavarian Palatinate, now included in *Land Rhineland-Palatinate*, Germany. It is noted as an important centre for the production of cotton yarn, sewing machines, boilers, and shoes. The tn. also possesses railway shops and iron works. Its castle, which was built during the twelfth century by Frederick Barbarossa, was destroyed during the eighteenth century. Pop. 62,600.

Kaiser Wilhelm Canal, Schleswig-Holstein, extends from the Elbe above Brunswick to the Baltic at Hohenau above Kiel. It is 61 m. long, and 29 ft. deep. The construction was first begun in 1887, and the canal was first opened for traffic in June 1895. Its construction was only completed in July 1914. In the First World War the naval mutiny at Kiel was the precursor of Germany's downfall. After the war the canal was internationalised. The merchant vessels passing through the canal have aggregated over 21,600,000 net tonnage. See also **KIEL**.

Kaiser Wilhelms Land, former Ger. protectorate in the N. of New Guinea. It was occupied by the Australians in Sept. 1914, and in 1920 was assigned to Australia by mandate of the League of Nations. It is known now as N.E. New Guinea (q.v.).

Kaithal, or **Kythal**, tn. 46 m. S.W. of Ambala, in the Karnal dist. of the E. Punjab, India. Cattle, corn, and blankets are

the chief articles of commerce, but salt-petre and cotton are also manufactured. There are sev. thirteenth-century Muslim tombs. Pop. 12,900.

Kaka, Maori name for a New Zealand parrot, the *Nestor meridionalis*. It is light-brown, variegated with grey on the crown and dark red beneath. The name, like cockatoo, is imitative. The kakapo, also a New Zealand parrot (*Strigops habroptilus*), has green plumage mixed with yellow and brown, and a disk of feathers round its eyes, whence its popular name, owl parrot. It cannot fly, its wings being used only for balance.

Kakaterro Tree, see under **DACRYDIUM**.

Kalafat, see **CALAFATU**.

Kalahari, tract of country in S. Africa, between the Zambezi and Orange R.s., is often called the K. desert, although true desert conditions do not prevail, for many parts are at times covered with grass and scrub, which provide cover for game. It consists of sandy plateaux, containing 'salt pans,' probably remnants of inland lakes now dried up. There is a very slight rainfall, and all the rvs. are periodic, excepting the Okavango, flowing into Lake Ngami. It is believed that good water could be obtained by well-sinking in many parts, and that K. would then provide 20,000 sq. m. of fine ranching country. Prof. E. H. L. Schwartz in 1918 formulated a scheme for restoring the lakes of the K., and so ending the country's drought problem. He claimed (and he claimed, too, that Livingstone was of his opinion) that these lakes had been drained away by the Zambesi, but that by an expenditure (variously estimated up to £5,000,000) the water could be diverted into them again, and not only would the danger of an encroaching desert on S. Africa be avoided, but the very existence of the lakes would cause such a rainfall as to relieve the union of its periodic danger of drought. But in 1945 Mr. Conroy, minister of lands and irrigation, and a party of members of Parliament representing all parties, toured the K. area, and subsequently issued a report to the effect that neither was the Schwartz scheme practicable nor would it produce the results envisaged by its author. Livingstone, Charles John Andersson, Chapman, and Balme were the prin. explorers of the K. a century ago. The Inhab., Bushmen and Bakalahari, live chiefly by hunting and number about 50,000. See G. A. Farini, *Through the Kalahari Desert*, 1886; S. Passarge, *Die Kalahari*, 1907; W. J. Makin, *Across the Kalahari Desert*, 1929; and P. T. Etherton, *Across the Great Deserts*, 1948.

Kalamata, or **Kalamæ**, cap. of the *nomos* of Messenia, in Greece, has been on more than one occasion the scene of political disturbances. It was sacked by Ibrahim Pasha in 1825. The dist. is very fertile. Pop. 28,900.

Kalamazoo, city in the co. of K., Michigan, U.S.A., 144 m. W. of Detroit, on the K. R. and four railroads. Celery and peppermint are grown in the neighbourhood, and paper is manufactured. Pop. 54,100.

Kalat, Khelat, or Kelat, state of Baluchistan, formerly a semi-independent state under the suzerainty of Kabul and now in a tribal confederation of partially independent chiefs, of whom the khan (or wali) of K is the head. Includes also Makran and Kharan. K has an area of 54,230 sq m and a pop (1911) of 233,000 (mostly Moslem). The chief tn is Quetta (q.v.) which has a pop of 64,000. The cap is Kalat, situated on the summit of a hill 6800 ft in altitude. It is a walled and fortified tn, and the residence of the khan. Pop 15,000.

Kale, see BOISSEAU.

Kaleštin, Paul (1861-1918) hetman of the Don Cossacks, and a famous general in the First World War. Less resourceful than Kornilov, he was not in agreement with the latter or with the other delegates to the extraordinary National Congress, Aug 1917, on the vital questions of the reform of the army and the restoration of discipline. Later in the disintegration of the empire into small republics, he became first president and Prime Minister of the anti-Bolshevik republic of the Don Cossacks. The Bolsheviks, however, soon triumphed in this region, and after his defeat at Novocherkassk he lost all faith in his Cossacks and shot himself (Feb 1918).

Kaleidoscope (Gk *kalos*, beautiful, *skopein* form, *skopeo* to see) optical instrument invented by Sir David Brewster in 1817. It consists of a tube about a foot long, along the whole length of which extend two mirrors or reflecting glass plates placed at an angle of 60°. One end of the tube is closed with a metal plate having a small hole or eye glass, whilst the other end is closed with two glasses separated by a number of small fragments of coloured glass. On turning the tube round its axis various gay pictures appear successively before the vision.

Kale-i-Sultaneh, or Chanak-Kale, fortified seaport of Asiatic Turkey on the Dardanelles 20 m S.W. of Gallipoli. It is noted for the manu. of pottery. In the Dardanelles campaign of 1915 it was unsuccessfully attacked by the Allies. Pop 15,000.

Kalendar, see CALENDAR.

Kalelds, see CALEDS.

Kalevala, or Kalewala, national epic of the primitive Finnish race, which was probably composed at different times by various bards. The scattered songs were first collected into a written form by Dr. Topelius in 1823, which ed. was followed by the more complete and systematic one of Dr. E. Lönnrot in 1835. The poem relates the story of Väinämöinen, Ilmarinen, and Lemminkäinen the three sons of Kalewa (Finland), and deals entirely with the ancient mythology and folklore of the early Finns. Longfellow borrowed its metre as some of its characters and incidents for his *Song of Hiawatha*. See Eng. trans. by W. B. Kirby (Everyman's Library).

Kalgan, or Changkaiaku, tn in the prov. of Chahar, Inner Mongolia, China. It is situated near the Great Wall, and lies about 120 m. N.W. of Peiping. It occupies an important position commercially,

as it lies at the foot of a pass on the route from Peiping to Siberia, and is the centre of the tea trade between the two. Pop (estimated) 30,000.

Kalgoorlie, tn and dist of W. Australia formerly Hannans. Gold was first mined there in 1893, and it is now the greatest gold-producing dist. of the continent. Production in 1946 (exceeding £1,000,000 in value). It has an arid climate but the tn has modern amenities and has a water supply pumped 400 m from the coast. K is a junction for the transcontinental line to S. Australia. Pop (tn) 12,000.

Kalguev, see KOIGUEV.



KALI, SIVA'S CONSORT
(fierce manifestation)

Kālī (black) in Hindu mythology, the goddess of death and destruction and the wife of Siva. She is represented as black, with four arms and blood-stained face, breast and palms.

Kalidasa, celebrated dramatist and poet of India. A date of birth places him in the first century B.C., but it is more probable that he lived in the third century A.D. He wrote three plays: *Sakuntala* (The Lost Ring trans. by Sir Win. Jones 1789), *Vikramorjaya*, and *Malavikāgnimitra*, while the two epics *Raghuvamśa* and *Kumārāsambhava* have also been ascribed to him as well as some lyrical pieces. It is probable that there were really three poets. See A. A. Macdonell *History of Sanskrit Literature*, 1900, and A. Hillebrandt, *Kalidasa, ein Versuch zu seiner literarischen Würdigung*, 1921.

Kalings, one of the nine ancient kingdoms of S. India, extending according to tradition, along the E. coast of Madras from 13° 30' to 18° 40' N.

Kalinin, Mikhail Ivanovich (1875-1946), Soviet Russian statesman, b. in a vil.

near Tver (now Kalinin), worked in St. Petersburg at the large Putilovka metal works, a hotbed of revolution. Here he joined Lenin's 'Union of Struggle for Freedom,' the precursor of the Social Democratic party, was frequently arrested for revolutionary activities, and eventually collaborated with Stalin and Gorky. K. belonged to the moderate wing of the party, and in 1917 he was often in conflict with Lenin who realised that there could be no compromise with Leninism. When the party was converted to a proletarian dictatorship K. followed his leader, though still a moderate at heart. Russia's first president, Sverdlov, who in 1919 had been president and first secretary of the party but, when these two functions were separated, Stalin succeeded Sverdlov in the party and K. took Sverdlov's place in the State. The choice was Lenin's, who realised that the head of the State should be known for his tolerance and contact with the people, especially with the peasantry. K. was the ideal man, for he was of peasant origin himself and was always accessible to peasants from whatever part of Russia they came to visit his chancellery. During the period of intra-party strife when Trotsky and Rakovsky led the extremists, K. sided with the moderates, led by Bukharin, Tomsky, and Rykov. Stalin adopted the middle course. But when in 1929 Stalin attacked the kulaks and collectivised the farms, K., though aware from these methods, again followed his party leader. He became president of the Soviet Union in 1923 and held office until March 19, 1946, when he retired for health reasons. His official title was 'President of the Presidium of the Supreme Council of the U.S.S.R.' for the authors of the revolution disliked titles and distinctions. Until 1940 Stalin was only first secretary of the central committee of the All Union Communist party, and the president was still by name only chairman of a committee for the principle of power dispersed in the anonymous people still permeates the constitution of the world's most centralised regime.

Kalinin (formerly Tver), region of the R.S.F.S.R. in the Moscow area. It lies on the S. slope of the Valdai Hills, and is watered by the Upper Volga and the W. Dvina. Also the name of the cap. of the region, situated at the junction of the Volga with the Tver. It has textile and leather factories. The whole dist. was the scene of desperate fighting in Nov. Dec. 1941 and Jan. 1942 during the last German drive on Moscow and in the great Russian counter-offensive. Pop. of in, 216,000.

Kaliningrad (formerly Königsberg) city and former fortress, cap. of Prussia on the Prugel, 6 mi. from the Frisches Haff, and 25 mi. from Pillau on the Baltic. It is now in the R.S.F.S.R. It consists of three main parts: the Altstadt (which grew up round the castle of the Teutonic knights, 1255), the Kneiphof, and Löbenicht. From 1525 to 1618 it was the residence of the duke of Prussia. Its river communication with Pregel, the Kurische Haff and Memel makes it very important, and the

tonnage of ships entered (1938) was above 1,200,000 (cleared 500,000). Among its chief buildings are the Gothic cathedral (founded 1333) with the 'Stoa Kantiana' adjoining, the univ. (1544), famous since the time of Immanuel Kant, who was born and lived there (1724-1804), and the Schlosskirche where both Frederick I. and William I. were crowned, and a great part of the city, including some of the above-mentioned buildings were either destroyed or very heavily damaged in the Second World War. Hemp, flax, tow, flour, corn, sugar, and timber were among the pre-war exports, coal, iron, and herrings among the imports. There were also manufactures of machinery, ironware, bricks, lime, yarns, woven textiles, wood pulp, chemicals and leather. Much of the remaining factory plant was subsequently taken into Russia by way of reparations. The marchpane (marzipan) of K. was well known.

The struggle for K. in the Second World War involved some of the most bitter and protracted fighting on the E. front. It may be said to have begun on Jan. 27, 1945, when the Russians, having encircled Poznan, broke through the German Lake defences S.E. of K. But the outburst of defence was especially strong, and it was not until Feb. 23 that the Russians succeeded in taking Poznan, and advancing in the K. area. The Gers. however, made a powerful counter-attack from K. itself, and the city was not captured by the Russians until April 9. Pop. (1939) 18,000. See further under EASTERN FRONT or RUSSO-GERMAN CAMPAIGN IN SECOND WORLD WAR. See W. Schultz, *Königsberg und Ostpreussen zu Anfang 1913*, 1901, and K. Bluhm, *Königsberg in Preussen*, 1930.

Kalinjar, isolated hill fortress and shrine in India, on a spur of the Vindhya Mts. overlooking the plains of Bundelkhand in the United Provs. K. is of extreme antiquity, and is mentioned in the *Mahābhārata*. On all sides of the hill are ruins of ancient status and temples, the latter including the celebrated *Shri Kaulia Mahadeo*.

Kalisz, 1 former prov. of Poland, covering an area of 43,750 sq. m. It is divided into eight dists. The surface is flat and the soil fertile. The Prozna and the Warta are the chief rivers. The inhab. is almost entirely occupied in agriculture, a few manufactures—cotton, sugar, and paper being carried on before the Second World War. It is now included in the prov. of Lodz. 2 chief town in the prov. of Lodz, Poland, on the Prozna, 130 m. W. S.W. of Warsaw. It is the ancient *Polonia* of Ptolemy, and contains remains of great antiquity. In 1706 the Swedes were defeated here by Augustus of Poland, and in 1813 the treaty of alliance was signed between Prussia and Russia. The chief industries are distilling, weaving, tanning, and tobacco. It was taken by the Russians from the Poles in the second half of Jan. 1915, in the course of their final offensive through the Polish plain. Pop. 63,300.

Kalkstickstoff, or Nitrolime, mixture of

calcium cyanamide, CaCN_2 , and carbon, made by heating calcium carbide in nitrogen to a temp. of about 1000°C . It is largely used as an artificial manure, and the nitrogen required for its manuf. is obtained from the atmosphere by the fractional distillation of liquid air.

Kallio, *Kyoosi* (1873-1940), Finnish statesman and patriot. Member of the Finnish Diet, 1901-37; Speaker during fifteen sessions from 1920; leader of the Agrarian party; minister of agriculture, 1917-22. Minister of communications, 1925. Prime Minister, 1922-24, 1925-26, 1929-30, and from Oct. 1936 to Feb. 1937. President of Finland, 1937-40. Resisted the Russian demands in 1939, but his gov. was compelled to yield in 1940 as the result of Mannerheim's defeat in the war with Russia, and K. resigned (Nov. 1940) on account of ill health through his anxieties, dying a few days later. See also **FINLAND**, *Finnish-Russian War, 1939-1940*.

Kalmar, fortified seaport tn. of Sweden, 47 m. N.E. of Karlskrona, is the cap. of K. prov. (area 1456 sq. m.). It is built mostly of wood on the is. of Quarholm in K. Sound, and connected with the mainland by a bridge of boats. The chief manufs. are matches and paper. It has a good harbour, and does a considerable coasting trade. There is a fine seventeenth-century cathedral and a castle dating from the twelfth century. In 1397, by the K. Union, the crowns of Denmark, Norway, and Sweden were united under the sovereignty of Queen Margaret. Pop. (tn.) 228,400; (prov.) 232,000.

Kalmthout, Belgian tn., 12 m. N. of Antwerp, in the heart of the picturesque Kempen (Campine) heath. It is a favourite country resort of the Antwerp citizens. There are extensive tree nurseries. Pop. 8500.

Kalmucks, *Kalmuks*, or *Calmucks*, div. of the Mongol race, living in parts of Asia and Russia, chiefly in Zungaria, Koko-nor, and parts of N. Tibet, along the steppes of the Volga, and in the region of Astrakhan. They are a nomadic race, dwelling chiefly in tents. In 1771 a large body of these people left Russia owing to their discontent at the Russian rule, journeyed to China, and settled there. At the present time they are divided, some being in Russian, and some in Chinese ter. The K. are of Mongolian origin, and made the last Asiatic irruption into the E. European plain. They were defeated by the Russians in the seventeenth century, and most of them withdrew into Asia. To-day only small groups remain near the Volga. Ust-Koksu is a Kalmuck trading centre in the Khakas Autonomous Region, and contains about 100,000 inhab. The Kalmuck Autonomous Republic (dissolved in 1946, and divided between the Stalingrad, Rostov, Stavropol, and Astrakhan regions of the R.S.F.S.R.) had a pop. of no more than 221,000, despite its great area.

Kalocsa, tn. and Rom. Catholic archiepiscopal see, Hungary, a few miles from the E. b. of the Danube, 86 m. S. of Budapest. Here is a beautiful old cathedral, an archiepiscopal palace, and an observatory.

Trade in wine, fruit, flax, and cereals. Pop. 15,000.

Kalomo, tn. of N. Rhodesia, Africa, 90 m. N.E. of the Victoria Falls. It was once the centre of administration now transferred to Livingstone. Pop. 5000.

Kalong, Great, see under **FRUIT-BAT**.

Kalpa-sūtra, or **Kalpa-soutra**, name of certain Sanskrit writings dealing with the ceremonial connected with a Vedic sacrifice. It is also the name of the most sacred book in Jain literature. See Jacobi, *The Kalpa-sūtra of Bhadrabahu*, 1879, and A. Weber, *Sacred Literature of the Jains* (trans.), 1893.

Kalpi, or **Calpee**, tn. in Jalaun dist., United Provs., India, on the r. b. of Jumna, 15 m. S.W. of Cawnpore. Chief trade, cotton. Pop. 10,600.

Kaluga: 1. Region of the R.S.F.S.R. The surface is an elevated plain, and the soil is infertile and incapable of producing crops sufficient for the inhab., but contains coal and iron, marble and potter's clay. The chief riv. is the Oka. Pop. 1,387,000. 2. Tn., cap. of above region, on the Oka, 95 m. S.W. of Moscow. It manufs. leather, tallow, glass, mats, and paper, and has iron foundries, cotton mills, sugar refineries, and tanneries. Its capture by the Gers. in 1941 during their invasion of Russia increased the menace to Moscow, but, in their counter-offensive towards the end of the year the Russians recaptured it (Dec. 30). Pop. 89,400.

Kāma, or **Kāmadeva**, in Hindu mythology, the god of love, the son of Brahmā of Dharmā, and the husband of Ratī (voluptuousness). He was destroyed by Siva, whom he attempted to seduce, but was afterwards reborn as the child Pradyumna (Cupid).

Kamakura, Jap. coastal tn., S.W. of Yokohama, on the bay of Sagami. There are numerous shrines visited by tourists, and a statue of Buddha (Daibutsu) 50 ft. high. From 1192 to 1333 K. was the cap. of the Shogunate, and had 750,000 inhab. Pop. 40,000.

Kambuiya, see **САМУЙС**.

Kamohaka, peninsula, about 750 m. long, in the N.E. of Asia, between Bering Sea and the sea of Okhotsk, forming 40 per cent of the Khabarovsk region of the U.S.S.R., and formerly included in Siberia. Its area is 1,038,996 sq. km. (401,052 sq. m.). Cape Lopatka forms the S. extremity. Two parallel ridges of mts. occupy a great portion of the interior, running S.W. to N.E. From N. to S. is a range of volcanic mts., most of them extinct. The highest peak is Klutchevskaya, 15,750 ft.; its latest eruption occurred in 1854. Above 5850 ft. all the mts. are snow-crowned even in summer. There are hot springs near the volcanoes. The climate is more severe than that of similar lats. in European Russia. Along both the W. and E. coasts there is snow, rain, or fog on most days of the year. On the S.E. are the bays of Kamchatka, Kronotski, and Petropavlovsk. The chief riv. is the K., 300 m. long. Most of the N. part of K. is covered with vegetation of the tundra type. Excepting on the highest slopes of the mts., the remainder is

forested. There are splendid forests of spruce in the S., where the aspect of the country resembles parts of Sweden. The larch and pine are also common. Fishing and hunting are the chief occupations; salmon and other food fish are plentiful, and bear, fox, sable, seals, and squirrels supply furs, which are largely exported. Salmon is the very basis of life in K., and the river teem with this fish. There are flocks of hundreds of wild sheep. Farming has been introduced under state supervision. Agriculture, however, is limited to the S. of the peninsula, and even there it is almost impossible to grow wheat. Copper, iron, mica, and sulphur are found, and in the milder climate of the interior rye, barley, and vegetables are cultivated. The mts. and upper slopes of the valleys around the central depression are inhabited by Koryaks and Lamuts. The Koryaks are, in the main, nomads, engaged in reindeer-breeding, and dwelling in tent-wise constructions of reindeer-skins stretched over wooden frames (*yurtas*). The Lamuts, who dwell in the valleys, are also engaged in breeding reindeer, but are engaged in hunting in addition. In the S. half of K. there are a great many small settlements, strung out along the valley in the central depression, and along the valleys of the W. coast. Large mechanised canneries have been established in connection with the salmon fisheries. The administrative centre and chief port of the whole region is Petropavlovsk, situated on the N. shore of Avatcha Bay, surrounded by mts., forests, and bay, surrounded by mts., forests, and good meadow land. It is an air and naval base, and has shipbuilding yards, and a large fish-canning factory. Some 15,000 colonists came into the K. region between 1930 and 1933, evidently reflecting some considerable economic development. Pop. (1939) about 60,000.

Kamel, Hussein (1853-1917), first sultan of Egypt. He succeeded Abbas Hilmi in Dec. 1914, the Brit. Gov. deposing the latter in the fourth month of the First World War because it was manifest that he was making every preparation to side with the Turks and Germans. Two desperate attempts were made on his life within a year of his accession, but he never relaxed in his unswerving loyalty to Great Britain. His broad outlook on his country's welfare and his intimate and liberal acquaintance with the fellahin made him the trusted adviser, both when he was prince and later when he had become sovereign, of all the Brit. administrators of modern Egypt. On his death in 1917 he was succeeded by his brother, Prince Ahmed Fuad.

Kamel, see HAMI.

Kamenets-Podolsk, tn. In Russia, in the Ukrainian S.S.R., cap. of the K.-P. region, is on the Smotritsch, a trib. of the Dniester, 240 m. N.W. of Odessa. It was annexed to Russia in 1795. In the Russian offensive of 1944 the tn. was taken by Marshal Zhukov on March 27. Pop. 51,000.

Kamenev, Lev Borisovich (real surname Rosenfeld) (1883-1936) Russian revolutionary official, b. at Moscow, son of a Jewish engineer. Joined the Social Demo-

crats 1901. Banished from St. Petersburg 1908; returned to Russia 1914. Exiled permanently to Siberia, 1915. Back in Petrograd 1917. One of Russia's representatives at Brest-Litovsk, March 1918. Presided over Moscow Soviet. Commissar of trade; and, on death of Lenin, chairman of council of labour and defence. In 1926, when K. joined Trotsky in opposition, he was deprived of office. In 1927 expelled the party; readmitted 1928. Executed as a Trotskyite 1936.

Kamenskaya, tn. on the Donetz R. in the Ukraine. Connected by rail with Kostov. Pop. 120,000.

Kamensk Uralsky, tn. in the Chelyabinsk area of the R.S.F.S.R. Pop. 59,800.

Kamenz, tn. in Saxony, Germany, on the Schwarze Elster, 30 m. N.E. of Dresden. It is the bp. of Lessing, the Ger. dramatist. The chief manufactures are glass, pottery, and tobacco. Pop. 12,100.

Kamerlingh Onnes, Heike, see ONNES.

Kamerun, see CAMEROON.

Kames, Henry Home, Lord (1696-1782), Scottish lawyer and philosopher, b. in Berwickshire. He was raised to the bench in 1752, and in 1763 was made one of the lords of judiciary. Lord K. was greatly interested in agr. enterprise. See life by A. F. Tytler, Lord Woodhouselee, 1807.

Kames, vil. of Argyllshire, Scotland, in the Kyles of Bute, 2 m. S. of Tighnabruich.

Kamesburgh, see PORT BANNATYNE.

Kamet, Himalayan peak, 25,413 ft., the highest summit yet climbed by man. The first and second ascents were both made in 1931 by a Brit. party and native guides and porters led by F. S. Smythe.

Kamienna Gora, see LANDSHUTT.

Kaministiquia, or Kaministiquia, tn. of W. Ontario on the K. R. (g.r.), 21 m. W. of Fort William, on the Canadian Pacific Railway. There is zinc and silver mining in the dist. Pop. 3,000.

Kaministiquia River, rises in W. Ontario, Canada, S.W. of Lake Nipigon, and flows into Thunder Bay, Lake Superior, passing over the Kakabeka Falls (130 ft. high).

Kamloops, city of Brit. Columbia, Canada, on the Thompson trib. of the Fraser R. It is the distributing centre of a mining and ranching dist., and a junction on the Canadian Pacific Railway. Pop. 6,000.

Kampala, largest township in the Uganda Protectorate, and the commercial centre of Uganda. It is connected by rail with Mombasa (879 m.) and the main line of the Kenya and Uganda railway extends to K. via Nakuru, Eldoret, and Jinja. There is also a railway from K. to Port Bell (74 m.). K. is a well-planned and growing tn. with broad streets lending itself to attractive development. Its pop. comprises about 700 Europeans, 3,000 Indians, and 500 Goms working in and around K., but it is difficult to estimate the native African pop. as most are workers from outlying vils. There are many excellent shops, offering practically every class of goods, and catering primarily for Europeans. The developed area, of which K. is the nucleus, comprises a number of hills,

each tending to be appropriated to some special purposes. Within the municipal area are the hill of Nakasero, the gov. residential area with the commercial quarter and gov. offices at its foot; 'Old' K.—the original and true K., and the gov. headquarters until their transfer in 1905 to Nakasero; and Kilolo Hill, occupied by the wireless and meteorological station. On the summit of Nakasero are the remains of the old gov. fort and a small museum, while its slopes are now largely an Asiatic residential suburb. At Mengo, beyond the township limits, are the kabaka's (native king's) palace, and headquarters of native gov. Also beyond the township limits are the hill of Namirombe, on which are the Protestant cathedral (All Saints Anglican church) and the C.M.S. Mengo Hospital; Rubaga Hill, with the Roman Catholic cathedral and headquarters of the Mill Hill fathers; Makerere hill, on which are Makerere College, the leading educational institution in Brit. E. Africa, and other gov. educational estab.; and Mulago Hill, where is the gov. central native hospital. K. is the hub from which radiate many of the more important arterial roads—westwards to Fort Portal, S.-westward to Masaka and Kigezi, northward to Masindi, and across the Victoria Nile to Gulu and Lira, and eastward over the Nile bridge to Jinja. K.'s golf course is one of the most attractive courses in E. Africa. Indian and Goan communities maintain a number of social and sports clubs in K. The Brit. flag was hoisted at K. Fort on April 1, 1893, when a provisional Brit. protectorate was proclaimed, thus ending the reign of the chartered company.

Kampen, old fortified seaport tn., on the Yssel, in the prov. of Overijssel, Holland, is 9 m. N.N.W. of Zwolle. It was one of the Hanseatic tns., and had a thriving trade which declined owing to the silting up of the harbour. Jetties have been constructed, and it is again flourishing. The chief manufs. are blankets, machinery, cigars, and bricks. Pop. 22,800.

Kamperduin, coastal vil. of the Netherlands in the prov. of N. Holland, off which was fought the battle of Camperdown (q.v.).

Kämpfer, Engelbert (1651-1716), Ger. doctor and explorer, b. at Lemgo, Lippe. He travelled in S. Russia, Persia, Arabia, India, Siam, Java, and Japan, and wrote *Geschichte und Beschreibung des Japanischen Reichs*, ed. by C. von Dohn (1777-8).

Kamrup, dist. of Assam, Pakistan, in the Brahmaputra valley, has an area of 3800 sq. m. The cap. is Gauhati. The chief products are rice, mustard, and tea; the manufs. are silk, brass ware, and filigree work. Pop. 668,000.

Kamtohatka, see KAMCHATKA.

Kanakas, term used by the Polynesians to describe th. mselves, *kanaka*, or *tanaka*, signifying man. The word is used indiscriminately by white races to describe all S. Sea Islanders. The Islanders were formerly forced into labour and exported to the Queensland sugar plantations of Australia. The traffic was prohibited in 1906.

Kanara: 1. North, dist. in the S. of Bombay prov., India, has for its W. boundary the Arabian Sea. It contains extensive forests, yielding teak and bamboos and abounding in tigers, leopards, and bears. The chief industries are sandal-wood carving and salt-working. The chief tn. is Karwar. Area 3910 sq. m. Pop. 480,000. 2. South, dist. on the Malabar coast of Madras, India, has an area of 4000 sq. m. It exports coffee, copra, rice, spices, tiles, and wood. The chief tn. is Mangalore. Pop. about 2,000,000.

Kanaris, or **Canaris**, Constantine (1790-1877), (ik. patriot, b. in the is. of Psara. In the cause of Gk. independence he blew up the Capitan Pasha's flagship with 2000 Turks (1822), repeated his feat at Tonodos in the same year, and wrought further damage to the Turkish fleet in 1824-25. He became minister of marine (1854-55) and, after the revolution of 1832, became premier to the new king.

Kanauj, anct. city in Farrukhabad dist., India, 50 m. N.N.W. of Cawnpore, is on the Kali Nadi R., trib. of the Ganges. It was formerly one of the most important cities of India, and is surrounded by ruins of its decayed greatness. It manufs. otto of roses, paper, and cotton goods. Pop. 21,900.

Kanawha, Great River, see GIKKAU KANAWHA.

Kanazawa, tn. on the W. coast of Honshu Is., Japan. Pop. 163,700.

Kanchipuram, see CONJEVERAM.

Kandahar, or **Candahar**, cap. of the prov. of K., in S.E. Afghanistan. It is situated about 280 m. S.W. of Kabul, and at a height of about 3500 ft. above sea level. The city itself, which is well watered, is a place of great importance as a trade centre, amongst its chief products being silk, felt, and fruit. According to tradition it was founded by Alexander the Great, and for about thirteen centuries practically nothing is known of its hist. In 1839 it was occupied by the Brit., and in 1842 Gen. Nott successfully defended it. In 1879 the Brit. again took possession of it, and in 1880, when besieged by Ayub Khan, it was relieved by Maj.-Gen. (later F.-M. Earl) Sir F. S. Roberts. Pop. with suburbs, 60,000.

Kandalaksha, White Sea port in the Murmansk region of the R.S.F.S.R., and the head of the gulf of the same name. On the Leningrad Murmansk railway, electrified from K. to Murmansk, and also on a line into Finland. Developed under the five-year plans, there are manufs. of paper and aluminium, and a fish-canning industry.

Kandavu, or **Kandabu**, Island, one of the Fiji group. Mountainous and very fruitful. Area 209 sq. m. Pop. 15,000.

Kandersteg, Swiss tourist resort, on the Bernese Oberland. Lies at a height of 7000 ft.

Kandy, tn. in Ceylon, 85 m. N.N.E. of Colombo, was formerly the cap. of the is. It is splendidly situated 1700 ft. above sea level, on the shore of an artificial lake. The Buddhist temple, Dalada Maligawa, is visited by pilgrims for the supposed tooth of Buddha it contains, and also its

anct. MSS. Near by are the botanical gardens of Peradeniya. Has the ruins of the palace of the old native kings. Their throne, long kept in England by the Brit. royal family, was formally presented to Ceylon in 1934 on the occasion of the duke of Gloucester's visit. Pop. 62,000.



John H. Stone

HANOI: ENTRANCE TO THE TEMPLE OF THE MOON

Kane, Elisha Kent (1820-57), Amer. explorer, b. at Philadelphia. He took his medical degree in Pennsylvania Univ. and became a surgeon in the navy, and visited India, China, Africa, and Mexico. Twice he went on Arctic expeditions to discover traces of Franklin, and received a gold medal from the Royal Geographical Society. He pub. *The U. S. Grinnell Expedition in Search of Sir John Franklin* (1853) and *Arctic Expeditions: the Second Grinnell Expedition* (2 vols., 1856).

Kane, tn. and summer resort in McKean co., Pennsylvania, U.S.A., 75 m. E.S.E. of Erie. There are railway works, lumber mills, and glass works. It is an oil and gas dist. Pop. 6,100.

Kanem, state of Fr. Equatorial Africa, N.E. of Lake Chad. It is now only a dist. of the colony of Chad. Muo is the chief tn.

Kangaroo, or *Macropus*, genus of marsupial quadrupeds almost entirely confined to Australia and the neighbouring is., though a few species are found in New Guinea. Modern classification regards the K. family as comprising twenty-one genera, two belonging to New Guinea and five being fossil; but *Macropus* remains the chief genus. Ks. form one of the most prominent and characteristic features of the fauna of these lands. Ks. vary considerably in size; the great K. attains a length of 8 ft., including the tail, whereas the wallabies (brush-Ks.) and rat-Ks., both of the same genus, are comparatively

small. They are distinguished primarily by the possession of a pouch (*marsupium*), in which they carry their young at birth and to which the latter go for shelter after they are able to run and jump. They possess six teeth in the upper jaw, and two in the lower, the canines being absent or rudimentary. The head is small compared with the rest of the body, and tapers forward. The shoulders and fore limbs are feebly developed, but the hind limbs are greatly elongated, and by means of these and the powerful tail the K. is able to take long leaps and make swift progress. The fore feet have five toes, each furnished with a strong, hooked claw. The hind feet are extremely long and narrow, and possess only four toes, the centre one, corresponding to the fourth of the human foot, being greatly developed, and terminating in an elongated nail, resembling a hoof. Ks. are formidable consumers of pasture, and browse on grass and various kinds of herbage and are hunted by colonists as much on account of the damage they do in eating grass required for cattle and sheep as for sport. They are by nature timid and nocturnal, except when brought to bay, when they will defend themselves with their sharp claws and powerful hind legs. The fur is soft and woolly and lighter in tint below than above, the skin being of value for both shoe and glove leather. The flesh is said to be nutritious and savoury, resembling mutton, the tail especially being considered a delicacy. In the Zoological Gardens of London the Ks. and wallabies breed freely.

Kangaroo Island, in St. Vincent Gulf, S. Australia, is cut off from Yorke's Peninsula by Investigator Strait. It was discovered by Capt. Flinders in 1802. It has salt deposits. Its area is 1719 sq. m. Pop. 600.

Kangaroo-rat, see *POUCHED MOUSE*.

Kangavar, or Kengavar, small dist. of Persia (Iran) between Hamadan and Kermanshah, once forming a separate gov., being held in fief by the family of a deceased count official, but since 1902 included in Kermanshah. The dist. is fertile and contains thirty vns., of which the largest, K., has 2500 inhab.

Kangchenjunga, Himalayan peak on the Sikkim frontier, N. of Darjeeling (29,225 ft.). Its position at the S. of the Himalayan range favours the formation of ice rather than snow. It is a strikingly beautiful mt., but its ice-field, combined with its generally steep angle, makes it excessively difficult of ascent.sev. unsuccessful attempts have been made, the party led by Dyhrenfurth (including the Eng. climber Smythe) reaching a height of 21,400 ft. Another Ger. party, led by Paul Bauer, visited the mt. in 1936. See F. S. Smythe, *The Kangchenjunga Adventure*, 1930.

Kangra, or Nagarkot, tn. and former cap. of a dist. of the same name in the Jullunder v. of the E. Punjab, India, 80 m. E.N.E. of Amritsar. The famous temple of Devi Rajreshri was destroyed by the earthquake of April 4, 1905. Pop. 5000. The dist. of K. lies between the

Jullundur dist. and the S. Himalayas. Dharmasala is the cap. There are wide tea plantations, and rice, wheat, and maize are grown. Area 9978 sq. m. Pop. 900,000.

Kanjur, *see under* DARDISTAN.

Kanjut, *see* HUNZA.

Kankakee, city in Illinois, co. seat of K. co. on the K. R., U.S.A., 56 m. S.W. of Chicago. It has limestone quarries and paper-mills, and manufs. bricks, furniture, agric. machinery, and cigars. It contains the Illinois State Hospital for the Insane, and many fine public buildings. Pop. 22,200.

Kano, prov. and tn. of N. Nigeria. The K. prov. in its present form comprises 30,000 sq. m., and it is one of the chief centres of the Hausa Moslems. It adjoins Bornu on the E., Bauchi and Zama to the S., Sokoto on the W., while the international Anglo-Fr. boundary forms its N. limit for more than 200 m. This prov. has fewer and less marked features of geographical or picturesque interest than any other Nigerian prov. On the whole it presents a uniformly 'park-like' appearance. Over thousands of square miles almost every acre is or has been cultivated, and the hedged or fenced roads and fields give an impression of civilisation and ordered industry which is unexampled in tropical Africa. Generally speaking K. prov. consists entirely of flat or gently undulating plains; its rvs.—as a rule dry for seven or eight months of the year—flow in almost imperceptible valleys in sandy channels. The scenery is more diversified by hills to the W., S., and S.E. borders, while N. of the lat. of K. and E. of its meridian scarcely a single stone or rock of any sort can be found. By far the greater part of the prov. drains into Lake Chad. The watershed between the Chad and the Niger systems is a line drawn through the centre of the prov. S. by W. from a point between Katsina and Kazaure. The prin. rvs. are the Chalawa or Hadejia R., rising in the extreme S. of Katsina, running N., then E. by N., flowing 12 m. from K. and past Hadejia, beyond which it joins in a network of swamps; the Katagum R., which joins another stream to form the Yo R.; and the Kogin Kano, Duduru, and Izi. The prov. of K. contains nine separate units of native administration, the supervision of which is distributed among four administrative divs., each in charge of a political officer, while the resident supervises the whole. These divs. are K., comprising the emirate of K. alone (12,987 sq. m.; pop. 2,000,000); Katsina, comprising the emirates of Katsina, Daura, and Kazaure (area 9495 sq. m.; pop. 570,900); Katagum, comprising the emirates of Katagum, Messau, and Jomaari (area 4374 sq. m.; pop. 279,952); Hadejia, comprising the emirates of Hadejia and Gumel (area 3870 sq. m.; pop. 138,705). The K. emirate is the most important of the native administrations of Nigeria. The emir presides over an executive council of four of his chief officials, and the council has regular meetings with the resident of K. The revenue of the K. emirate in 1936-37

was £206,720, and no other native authority approaches its exceptional position, the nearest being Sokoto, with an estimated revenue (in 1936-37) of £95,000. The larger tns. of K. are usually protected by circular walls of sun-dried bricks plastered over with mud and surrounded by a moat. The wall of K. city is 30 ft. high, 20 ft. broad at the base, and has a circumference of 12 m. It has turrets all round, with slits through which arrows or other missiles could be discharged. The duty of repairing the walls devolved on the various vils. of the parent tn. The introduction of walled tns. is traditionally ascribed to the founders of the Hausa states. The vils. of the pagan tribes of K. are located on the tops of hills or in forest clearings. These sites are generally unhealthy, and the hill sites are uneconomic, for much labour is required for the transport of water and supplies. The vils. are protected, not only by walls of stone, but also by cactus hedges, which also serve as boundary marks for compounds and farms. Among the Shiwa the houses are built in a circle round an open space, which generally contains a large zarba or cattle kraal. The occupations of K. are hunting, fishing, pastoral and agric. pursuits, bee-keeping, manuf. of silver wire and glass, dyeing and embroidery, pottery, spinning and weaving, and the preparation of salt. Doubt has been expressed as to whether the careful and industrious system of agriculture practised around K. can survive for much longer if destruction of vegetation continues at the present rate.

The township of K. has grown up outside the walls of the native city, and contains a considerable number of Europeans, as well as non-Europeans, the majority of whom approximate more closely to European ways of life than the local natives. It thus became obvious at an early stage in the application of the principle of 'indirect rule' (i.e. through native institutions) that the emir of K., though a long-established, powerful native authority, would experience difficulties in dealing with the complex elements of the township and the changed economic and administrative conditions introduced by such developments. At the present time the township area at K. has its own administration under a Brit. magistrate, though an arrangement has been made by which the Sabon Gari, the part of the township inhabited mainly by stranger natives, has been given an African ward-head approved by the emir, and assisted in judicial functions by representatives of the more important tribal groups. The native administration has installed a water supply and electric light in K. city; it has a large and well-equipped hospital, a middle and ten elementary schools, a survey estab., and is responsible for the construction and maintenance of all communications in its area. It has railway connection with S. Nigeria. It maintains a large central prison, and its own police force. Pop. of native city and township 89,800.

According to oral tradition, the earliest inhab. of K., were a race now referred to

as Abagayawa. A few families in K., the men of which are generally blacksmiths, still call themselves by this tribal name. Their legend is that one of their ancestors, a smith called K., came from Gulu (near K.) in search of ironstone and settled near Dulla Hill, when the present site of the town was uninhabited. The first ruler of K. was Bagoda; son of Bauwo, grandson of Bayajjiba, a legendary hero, who became sarki of K. in A.D. 999. For long K. paid tribute to Abu rulers, though its own rulers, and the people seem to have enjoyed almost complete local autonomy in respect to their internal affairs and organisation. They elaborated a comprehensive system of taxation and a hierarchy of officials, whose titles still exist and are in use throughout the Hausa States. Before the advent of Islam the heathen rites in vogue included some form of tree and serpent worship, and the sacrifice of black animals. Legend has it that the grove of trees which formerly existed round the pool of Jakara was especially sacred. The first advent of the Fulani into K. is nowhere recorded, but they were numerous in the fifteenth century. For long the Fulani could not subdue the city of K. itself, its formidable walls and the amount of cultivated land within rendering it impregnable. Eventually a new leader, Suleiman, entered the city unopposed. After Suleiman's death in 1819 the rule devolved on the family of Mallam Jemo, and this has been the ruling family ever since. It was in the latter part of 1902 that news reached K. of the probability that the Brit. would advance and occupy it. No effective resistance was offered and K. city was occupied in 1903.

See W. F. Gowers, *Gazetteer of Kano Province*, 1921; H. C. Hall, *Barrack and Bush in Northern Nigeria*, 1923; C. K. Meek, *The Northern Tribes of Nigeria*, 1925; M. Perham, *Native Administration in Nigeria*, 1937; Lord Hailey, *An African Survey*, 1938; A. Burns, *History of Nigeria*, 1942; C. R. Nixon, *Nigeria*, 1946; and *Annual Report on the Northern Provinces of Nigeria for the Year 1949*.

Kansas, N. central state of U.S.A., bounded on the N. by Nebraska, E. by Missouri, S. by Oklahoma, and W. by Colorado, covers an area of 82,138 sq. m. There are no mts., the surface rising gradually from 750 ft. in the E. to nearly 1000 in the W. The Missouri forms its boundary on the N.E., and its trib. the K., and the Arkansas and many smaller streams water the state. The E. part of the state is covered by carboniferous formations, the W. by Pliocene deposits, and the remainder by Cretaceous and Tertiary deposits. Bituminous coal, lead, zinc, gypsum, limestone, sandstone, and salt are found, and petroleum wells furnish a valuable supply of oil, the average per annum being over 90,000,000 barrels. There are also supplies of natural gas, and Portland cement is produced. The surface is undulating prairie covered with rich loam of the highest agric. value, requiring, as yet, no artificial fertilising. The rainfall is sufficient, except in the W., and comes at the best period, i.e. early summer.

The chief crops are wheat (K. normally produces one-fourth of all the wheat in the U.S.A.), Indian corn, oats, barley, rye, hay, fruit, potatoes, sorghum, flax, and tobacco. The state is not naturally well wooded; the trees are usually small and found in riv. bottoms; red cedar is the only native evergreen. The luxuriant growth of wild sunflowers has given K. the name of the Sunflower State. In areas where crops do not thrive are excellent grasslands on which horses, cattle, sheep, and pigs are reared. Agriculture and cattle-raising employ most of the people, and many of the manufacturing industries are connected with them, as slaughtering, beef and pork packing, flour-mills, and the manuf. of agric. implements. K. is one of the four greatest cattle-producing states in the union. There are also beet-sugar and glass works, and aircraft and metalwork manufs. K. is divided into 105 cos.; the prin. tns. are K. City, 121,400; Wichita, 114,900; Topeka (the cap.), 67,800; Hutchinson, 30,000; Salina, 21,000; and Pittsburg, 17,500. There are forty-three institutions of higher education, nineteen colleges and univs., one professional school, two teachers' colleges, and twenty-one junior colleges. There are many navigable rivers, and over 8950 m. of stream and 445 m. of electric railway. The greater part of K. was acquired by the Louisiana Purchase, 1803, and completed in 1850, when the Mexican ter. was taken over. It suffered much during the civil war. According to the Constitution of 1861, when it was admitted to the union, the legislature consists of a Senate and a House of Representatives elected for four and two years respectively. Eight members of the latter and two senators represent the state in Congress. The governor and executive officers are elected for two years. Pop. 1,800,000 (a decrease of 80,000 over that of 1930). See W. E. Connelley, *History of Kansas* (5 vols.), 1918; Federal Writers Project, *Kansas: a Guide to the Sunflower State*, 1939; and F. B. Streeter, *The Kaw: the Heart of a Nation*, 1941.

Kansas City: 1. City and co. of Jackson co., Missouri, U.S.A., on the Missouri R. It is an important railway and trading centre, and situated at the junction of sev. railway systems. The chief industry is meat packing and there are many others, including flour milling, soap-making, and oil refineries. There is a large trade in livestock and grain. The public buildings are imposing, and large sums of money have been spent in grading the site, which was very uneven. Pop. 399,100. 2. largest city of K. state and co. seat of Wyandotte co., at the junction of the K. and Missouri Rs. separated from K. C. (Missouri) only by the state line. It has immense meat-packing houses, second only to Chicago, and an important grain and flour trade. There are oil-refining plants, and its manufs. include soap, machinery, and railway locomotives. It is the seat of univs., both for white and coloured students. Pop. 121,400.

Kansas-Nebraska Bill, The, Act passed by Congress in 1854, regulating the ters. of Kansas and Nebraska, allowing local

option in slavery, and thus abrogating the Missouri compromise. It helped to start the Civil war, and caused the rise of the Republican party.

Kansu, N.W. prov. of China, is bounded N. by Inner Mongolia, S. by Szechwan, E. by Shensi, and W. by Chinghai. It covers an area of 146 000 sq. m. It is mountainous; on the S.W. the great Nan-shan Mts. form in part the boundary of the prov. with Chinghai. The Hwang-ho is the prin. riv. flowing from W. to N.E. Minerals are abundant, especially coal. The valleys are fertile, and good crops of millet, beans and tobacco are obtained. The climate is very dry. The products are mainly furs, silk, tobacco, mercury, wool, and cattle. The cap. is Lanchow. The main trade route from Peking to Kashgar passes through the prov. In 1920 the S.E. part of the prov., between Lanchow and the Weiho R., suffered a disastrous earthquake. Pop. (1923) 6,798,000.

Kant, Immanuel (1724-1804), one of the most important of modern philosophers, and perhaps the greatest of all metaphysicians, b. of Scottish descent at Königsberg (E. Prussia), then a centre of humane pietism, where his father was a master saddler. K. later in life greatly extolled his parents, both of whom seem to have met the vicissitudes of life with a resignation and gentleness born of their pietistic religion. It was his mother, however, who particularly influenced K.'s mind, notably in educating him to an appreciation of the beauty and glory of nature. K. appears to have encountered the gloomy side of pietism, or its formalism and intellectual constraint, especially at school, where the fixed hours for prayer and the compulsory morality engendered much affectation and downright hypocrisy. K. was educated at the Collegium Fredericianum, and subsequently at the univ., whither he proceeded in 1740 to study mathematics, theology, and philosophy, the latter chiefly of the Wolffian school, which at that time held sway in Germany. His teacher in philosophy and physics at the univ. was Martin Knutzen, one of the most independent of Wolffians. He had entered the univ. as a theological student, but he attended very few theological lectures. Towards the end of the six years he spent there he was sorely pressed for money, on account of his father's death; and from 1746 to 1755 earned a scanty living as private tutor. In 1755, obtaining his degree of doctor of philosophy, he became a *dozent*, i.e. a private lecturer under the control of the univ., and eleven years later he was appointed a sub-librarian, a position carrying a salary of about £11 per annum. His years as a tutor in distinguished families gave him that insight into the world which otherwise his secluded existence would have denied him. Also during that period he laid the basis of the wealth of thought and knowledge which he revealed on his earliest appearance as a univ. teacher and as a writer.

Prior to returning, in 1755, to Königsberg, his only pub. work was a short essay on physics. His lectures on physical geo-

graphy and empirical psychology were designed on popular lines, though some were strictly philosophical in form and not intended for so wide a circle. Among his hearers in 1762 was Herder, who enthusiastically describes K.'s powers as a teacher of moral philosophy, in *Briefe zur Beförderung der Humanität*. Characteristic of this, his earlier period, is his independent criticism of his teachers Wolff and Newton. It was not until 1770 that he succeeded to the coveted professorial chair, and in the new appointment he lectured not only on metaphysics and logic, but also on natural science, geography, anthropology, physics and mathematics. Meanwhile he had not been idle in the literary field, his first book, *Thoughts on the True Estimate of Living Forces*, was pub. in 1747, and *Theory of the Heavens* in 1755. In this last named he criticises Newton's assertion that the present order of the solar system cannot be explained by the mechanical laws of nature and propounds his celebrated hypothesis that the present system of the heavenly bodies has been evolved out of a gaseous atmosphere, endowed with primary rotation, and, in the firm interconnection of all the elements of the universe, he sees conclusive evidence of the assumption that the whole universe has its ultimate ground in an absolute and all-comprehending being, so that, in this work, he unites his scientific with his religious views, although rejecting the ordinary proofs of the existence of God. *Traume eines Geistesuchers* (*Dreams of a Visionary*), his first really significant work appeared in 1766, probably inspired by his reading at that time of Swedenborg. This work has sometimes been regarded as the introduction to his ambitious system of critiques which came later, but perhaps it would be more correct to assign that place to his last treatise, *Inseratio de mundi sensibilis etc.* (1770). It was only during his occupation of the chair of philosophy at Königsberg Univ. (1770-97) that he was recognised at all widely as a profound and original thinker. As a lecturer he was successful in spite of his weak voice, deformity, and slight physique.

His ultimate fame rests on the writings of the later part of this period, of which the *Kritik der reinen Vernunft* (*Critique of Pure Reason* 1781), his best known work, and the basis of all his subsequent writings came first. As an introduction to this he pub. the *Prolegomena* (1783), a year or so later an explanatory popular version was issued by one of his students; the *Die Metaphysik der Ethik* (*Metaphysics of Ethics*, 1785), and *Metaphysics of Nature* (1786) appeared, and the critique passed into its second ed. in 1787. Meanwhile, Königsberg had become the centre of philosophical activity, and K.'s method had been adopted by nearly all the Ger. univs., not only for philosophy, but also in some instances for combination with Christian ethics. The remaining critiques, *Der praktische Vernunft* (*Of Practical Reason*, 1783), and *Der Urteilskraft* (*Of Judgment*, 1790), complete the list of his most important works. In 1792 his teaching was censored by the Prussian Gov. on

account of the anti Lutheran ideas in his rationalistic thesis, *Die Religion innerhalb der Grenzen der blossen Vernunft* (*On Religion within the Limits of Reason alone*, 1792-93) of which the first part had appeared in the *Berlin Journal* to which he was a regular contributor. Gradually, as time passed K. showed signs of impaired health and mental vigour, and in 1797 he resigned his chair.

His philosophical development, as it appears in his works and pub. writings up to 1770 may be summarised thus. His first work is an attempt to reconcile Descartes and Leibnitz in his fatalistic thesis on the Principles of Metaphysical Knowledge, and also an attempt to reconcile Wolff and Crusius, while his *General Natural History and Theory of the Heavens* attempts to reconcile Newton and Leibnitz or the mechanical and teleological standpoints. K. seems indeed, to have been attracted to mechanism in nature and therefore to Lucretius but at this period of his intellectual development (1755-63) he was at one and the same time discussing a number of questions in which our interest had first been awakened in the Middle Ages, producing his *On the False Subtlety of the Syllogistic Figures* (1755), *Attempt to Introduce the Notion of Negative Quantity into Philosophy* (1763), *Only Possible Proof of the Existence of God* (1793) and *On Evidence* (his last named being an essay for the Academy prize won by Moses Mendelssohn (1764). Generally speaking K. at this period was an enlightener of the school of Wolff and indeed was giving lectures on the comendia of Baumgarten, Baumgarten and Meier all adherents of Wolff. But already he was beginning to modify his standpoint and in his pub. works, anticipating something newer and higher, as may be seen from his *Dreams of a Visionary* and *On the Ground of distinguishing Particular Divisions in Space* (1768). His alienated general attitude appears however much more definitely in the work with which he entered on his office as ordinary prof. This, however being written in Lat. by way of academic exemplar and given only a very limited circulation received but little attention. This work *De mundi sensibilis et intelligibilis forma et principiis* (1770) is the border line between the two periods in K.'s life which are styled by Rosenkranz the 'theoretical' and the 'speculative' (1846) and shows us K. as he was at the time he had waked him out of his dogmatic slumber. (1846)

K.'s philosophy was aimed at the scepticism of the Empiricists (e.g. Hume) and at the clerical triviality and dogmatic prejudice of the existing (or schools). It is customary to divide his work into three periods: (1) influenced by Leibnitz and Wolff, (2) a reaction against (1) under the influence of the Empiricist philosophers and (3) his critical period during which his own philosophy found mature expression. It is necessary to explain before considering the main points of his teaching that by pure he meant that which is isolated from actual experience

and by 'empirical' that which results from actual experience. The chief divisions which he made in his own system were (a) transcendental and (b) metaphysical, the former he developed more fully and it has had more influence on subsequent thought—he has been called the creator of the transcendentalism of cognition. He divides the mind into (a) Intellect subdivided into sensibility (passive) and thought (active), (b) Sensation or Feeling, the lowest cognitive faculty and (c) Volition. The old rationalism he rejects for its psychology he substitutes his examination of the subject for its cosmology, his examination of the object and for its theology his examination of the relation



IMMANUEL KANT

between subject and object. Identifying the conception of God with 'the more general law of ethical necessity' he places responsibility on the reason as opposed to the emotions. That it should be possible for a man to accept this responsibility, it is necessary that he should be free from the control of the physical laws of natural causality. This spiritual emancipation, the elevation of subject over object, of noumenon over phenomenon, is attained as his critical conclusion that phenomena do not exist in themselves but only in relation to the mind with which they are therefore conformative. He denied the existence of any law supreme, absolute, and external truth such as the rationalists had affirmed. He claimed to establish that only by a process of schematisation does an object offer itself as a cognisable unit to the abundant divisions of the mind, (a) the sensuous intuitions of time and space, and (b) the pure notions of understanding or 'categories'—the twelve categories being grouped under the four 'forms' as follows (1) Quantity (Unity,

Multitude, Totality); (2) Quality (Reality, Negation, Limitation); (3) Relation, between substance and accident, cause and effect, action and reaction; and (4) Modality (Possibility, Existence, Necessity). His *Critique of Pure Reason* is an examination of experience and of the laws of practical reason which he ultimately announced as its controlling force; practical reason becomes one with morality, and the supreme cause is a moral cause, i.e. the subordination of the empirical, or sensuous, to the pure, or intellectual. His final dicta on the relation of noumenon and phenomenon, i.e. experience, are to be found in his *Critique of Judgment*, in which he traces the ultimate value of life to ethical teleology. From his system of critical or transcendental idealism developed the 'subjective' idealism of Fichte, the 'objective' of Schelling, and the 'absolute' of Hegel; and his works also influenced Jacobi, Schleiermacher, and Schopenhauer.

His 'religion within the limits of mere reason' impelled him to avoid religious subjects in his lectures, and immediately subsequent writings. This marks what is called the 'practical' period of his career. To this last period belong *On Everlasting Peace* (1795); *Die Metaphysik der Ethik* (The Metaphysic of Morals, 1797), which as a general title was prefixed to the *Metaphysical Foundations of the Theory of Right*, 1796; *The Metaphysical Foundations of the Theory of Virtue*, and a number of short essays in the *Berliner Monats-schrift*. With a new monarch on the throne the need for restraint had gone, and he pub. *Der Streit der Fakultäten* (The Conflict of the Faculties, 1798) and *Anthropology from a Pragmatical Point of View* (1798).

During his own lifetime the courses of his lectures were printed singly and his minor writings were collected by Tieftrunk and others. But a complete ed. of his works was long in coming. The first was the 10-vol. ed. of G. Hartenstein (Leipzig), 1838-39, and the next, that of K. Rosenkranz and F. W. Schubert in 12 vols. (Leipzig) came in 1838-40 (this latter contains a biography as well as a hist. of the Kantian philosophy by Rosenkranz); and the most exhaustive, issued by the Prussian Academy of Science in 22 vols., 1900-1942.

Eng. trans.: *Critique of Pure Reason* by T. Meiklejohn, 1852, and M. Muller, 1881; *Critical Philosophy*, E. Caird, 1859; *Works* by J. P. Mahaffy, 1872, and J. Stirling, 1881; *Theory of Ethics*, T. K. Abbot, 1873; *Critique of Judgment*, J. H. Bernard, 1892. See K. Fischer, *Immanuel Kant*, 1860, 1928; R. Adamson, *The Philosophy of Kant*, 1879; F. Paulsen, *Kant, sein Leben und seine Lehre*, 1898 (Eng. trans., 1902); H. Sidgwick, *Lectures on the Philosophy of Kant*, 1903; R. Krouer, *Kants Weltanschauung*, 1914; E. Cassirer, *Kants Leben und Lehre*, 1921; H. Höffding, *A History of Modern Philosophy*, 1927; R. Wellek, *Immanuel Kant in England, 1793-1838*, 1932; *The Heritage of Kant*, ed. by G. T. Whitney and B. F. Bowers, 1940 (covers the whole range of Kantian philosophy—his philosophy of

knowledge, of science, of conduct, of law, of art, and of religion); A. H. Smith, *Kantian Studies*, 1947; and J. Bonds, *Kant*, 1949. See also NEO-KANTIANISM.

Kantemir, Demetrius, see CANTEMIR.

Kanting, or Kangting, formerly Tatsienlu, cap. of Sikan prov., China, on the Tong riv. It has been much used as a departure-point for travellers to Tibet. There is a Fr. mission, and it is a centre for Tibetan trade with China. A wireless station has been erected.

Kaolin, or China Clay, is a fine, almost impalpable powder of pure white colour, very soft and slightly greasy to the touch (h. 1; sp. gr. 2.2), consisting of hydrated aluminium silicate. It absorbs moisture readily, and when wet is easily moulded, being largely used in the manuf. of porcelain (of which it is the chief ingredient) and of pottery, the absence of iron in the clay resulting in a pure white article after firing.

K. is also used in the preparation of sizes for smooth-faced papers, and for loading cheap cotton goods, and is a constituent of many water-colours, paints, pigments, and powders. K. is a product of the decomposition of the felspar of a granite rock. The name is derived from the Chinese *Kao-ling*, 'high ridge', the name of hills in Ch'ianghsi, a chief seat of the porcelain manuf. in China. China clay is also found in large quantities in Cornwall, and in Saxony, France, the U.S.A., and elsewhere. The pure clay is prepared by stirring up the crude material with water and allowing it to settle. It is then dug out and dried over hot flues.

Kapellen, tn. in Belgium, 9 m. N. of Antwerp, engaged in agriculture, cattle-breeding, brick works, and distilleries. Pop. 9600.



KAPOK

A, ripe seed opening.

Kapok (Malay kapog). A fine silky cotton substance arising from the surface of the seed coats of sev. trees, but obtained chiefly from the K.-tree (*Eriodendron fructuosum*, family Malvaceae of Java, and from the silk-cotton tree, or Sumahuma (*Ceiba pentandra*, var. *indica*, family Bombacae, with 19 genera). Other trees of

the *Bombax* family, which has about 30 species (*B. munguba* of Brazil, *B. malabaricum* of India, *B. mexicanum* of Mexico) as well as *Ochroma lagopus*, yield an inferior K. The stuff-like substance is produced in great quantities and, being impervious to water, the material is useful for stuffing life-saving apparatus. It is also used to stuff mattresses and cushions. From the seeds is expressed K. oil, used for soap-making and as an edible oil. K. was first introduced into Europe in 1851 and is also obtained from tropical Africa. A yellowish-brown kind, of a brilliant and silky texture, comes from Indo-China.

Kapp, Gisbert (1852-1922), Austrian electrical inventor; b. at Mauer near Vienna; son of a native of Trieste and his Scottish wife. Studied at Zürich. Came to England 1875. Travelling, returned to England in 1882. Made improvements in electrical measuring instruments and in dynamos. In 1885 began dynamo-making on his own account, but his dynamo has now been superseded by a more modern type. London editor of *Industries*, 1886-1890. In Germany, about 1894-1901, secretary to Ger. Association of Electrical Engineers. Returned to become prof. of electrical engineering at Birmingham Univ. till 1918. He designed power stations and transformers, and applied mathematics to problems of electrical engineering. He was awarded the Telford medal. Wrote *Electric Transmission into Energy* (1891); *Dynamos, Alternators and Transformers* (1893); and *Principles of Electric Engineering* (1916).

Kapp, Wolfgang (1868-1922), Ger. counter-revolutionary, b. in New York; son of a democrat who had emigrated to U.S.A. after participation in risings of 1848. Educated at Königsberg, and became general director of E. Prussia. On March 13, 1920, he tried a *coup d'état* or *putsch* with assistance of Gen. von Luttwitz and troops. Republican authorities fled from Berlin; but the retiring advice of President Ebert to the inhab. to fight the *putsch* by a general strike was so successful that, four days afterwards, 'Chancellor' K. fled to Sweden. Arrested on return to Germany; d. while awaiting trial at Leipzig.

Kappel, see CAPPEL.

Kapunda, tn. in Co. Light, S. Australia, 45 m. N.N.E. of Adelaide. It is the centre of a thriving wheat and wool producing area, other products being dairy produce, olives, canary seed, mustard seed, oats, and barley. Average rainfall 19½ in. Its manufs. include weighbridges up to 100 tons capacity, hydraulic hoists and garage equipment, flour and chalk mills. The tn. is served by rail express passenger service on the R. Murray route. There are bituminous roads from Adelaide through K. to N. tns. A feature is the fortnightly sheep and cattle market, and ann. horse sales which attract buyers from all over the commonwealth, India, and the Middle E. Pop. in tn. and dist. 3000.

Kapurthala: 1. State in the E. Punjab, India, between the Rs. Beas and Sutlej, has an area of 630 sq. m. The soil of the dist. is fertile; the chief crops are sugar,

cotton, wheat, grain, and maize. Pop. 378,300. 2. Tn., cap. of above state, 65 m. E. of Lahore, contains the maharajah's palace and Randhir College. Pop. 18,600.

Karachev, tn. in the Bryansk Region of the R.S.F.S.R., with oil works, hemp factories, and a trade in grain, etc. Pop. 40,000.

Karachi, or Kurrachee, seaport of Sind, and cap. of Pakistan. It is the chief port for the Punjab and takes most of the traffic of the Indus. The wharves of the extensive harbour are on the is. of Kiamari, which is connected with the tn. by the Napier mole, 3 m. long. Large sums of money have been spent on improving the harbour, and making the docks and breakwater. It is the terminus of the air mail from London via Cairo and Bagdad. It is a railway terminus, and busy trading centre, having extensive inland trade with Afghanistan and Turkestan. The chief industries are carpets and metal ware. K. was acquired by the Brit. Gov. in 1872, and passed to Pakistan in 1947. A shipbuilding yard, to construct ocean-going vessels of 10,000 to 15,000 tons, is to be estab. here. The cost of the new yard is estimated at 5 crores (£3,750,000). Technical aid is to be given by the great Clydebank firm of John Brown & Co. Pop. 359,400.

Kara Dengis, see BLACK SEA.

Karaganda, tn. of the Kazakh S.S.R., Russian Central Asia, in the region of the same name. It was estab. as an important industrial city as a result of the exploitation of its coal-fields under the five year plans. Pop. 166,000.

Karageorge, see CZERNY DJORDJE.

Kara-Hissar, see AFICUM KARA HISSAR.

Kara-kalpaks (Black Caps), Mongolo-Tartar people who inhabit the S. and E. coast of the Aral Sea, thus forming a geographical transition between the N. Kirghiz and S. Turkomans. Emigrants have settled in Astrakhan, Kuban, and Siberia. Their chief occupation is agriculture and horse-breeding. The land they inhabit is now known as Kara-Kalpak., and is an autonomous republic of Soviet Russian Central Asia, included in the Uzbek S.S.R. Turkeki is the cap. Pop. 305,000.

Karakol, see PRIZHEVALSK.

Karakoram Mountains, or Mustagh, range in central Asia, separating Sinkiang and India, and forming a continuation of the Himalayas to the Hindu-Kush. It extends N.W. as far as the Pamir. This range contains some of the highest mts. in the world, among them being Godwin-Austen or K2 (28,278 ft.), and sev. others over 25,000 ft. high. It is also crossed by sev. passes, such as the Karakoram, over 18,000 ft. high, and the Mustagh. Extending to the W. there are numerous glaciers and ice-fields, one of the largest being the Baltoro. Gilgit, the remotest spot in the high K. mts. to the N. of Kashmir, formerly reached only after twelve days' trekking from Peshawar or Srinagar, has now been linked with the outside world by air. Every day transport aircraft operating for the Pakistani Gov. make hazardous 250-m. flights from Peshawar

up the Indus riv. gorges to Gilgit, covering the distance in two hrs. and bringing much-needed supplies to the 100,000 people inhabiting the Gilgit agency. In addition Pakistani military engineers have widened the existing 350-in. caravan route from Peshawar to Gilgit via Chilas State over Babusar Pass (13,700 ft. high) so that jeeps can traverse the whole distance within four days. Gilgit remains the centre of an age-old caravan traffic from Sinkiang or Chinese Turkestan and even to-day are met, on the narrow mt. path running southward from the frontier post of Misgar through the rugged but splendid Junza valley, scores of traders and pilgrims from Kashgar, with ponies and donkeys laden with silk and cotton cloths, sheepskin coats and other merchandise.

Karakorum, name of two old Mongolian caps.: 1. The Uighur cap., the ruins of which remain on the l. b. of the Orkhon, a trib. of the Selenga R., in the Talai-Khaindala steppe. It flourished between the seventh and ninth centuries, and was deserted on the fall of the Uighur kingdom. 2. The Mongolian cap., about 25 m. S.E. of the above. It was founded by Jenghiz Khan, and its walls were built in 1234-35. The city was visited by Marco Polo in 1275, and was subsequently destroyed by Kublai Khan, the fourth king of the Mongolian dynasty, for rebelling against his authority. See *Works of the Orkhon Expedition*, 1892; F. and W. Workman, *Ice-bound Heights of the Mustang*, 1908, and *Two Summers in the Ice-wilds of East Karakorum*, 1917.

Kara-kul: 1. Two lakes, distinguished as 'Great' and 'Little' K., in Russian Central Asia, in the Gorno-Badakhshan autonomous region of the Tajik S.S.R. The former has an area of 140 sq. m., and lies at an altitude of 13,200 ft.; the latter lies N.W. of the Mustagh-ata peak, at an altitude of 12,700 ft. 2. Tn. of Central Asia, formerly in Turkestan and now in Kirghiz S.S.R. It stands on the Zeravshan, 38 m. S.W. of Bokhara. Pop. 13,000.

Kara-Kum (Black Sands): 1. Or Transcaspiian, or Great desert in Russian Central Asia, extending between the Usturt plateau on the N. and W., the Ainu-Darya on the N.E., and the Turkmen oases on the S., with an area of about 110,000 sq. m., and about 200,000 inhab., chiefly Uzbek and Turkmen. 2. Or Arab, or Little, desert in Kirghizia, S. of Khiza, also known as the desert of Khiva.

Karamania, see **CARAMANIA**.

Karamzin, Nikolai Mikhailovich (1765-1826), Russian historian, b. at Mikhailovka (Simbirsk), in Orenburg. He studied at Moscow and St. Petersburg, and, after travelling through Europe and in England he pub. his *Letters of a Russian Traveller* (1797-1801), and estab. the *Moscow Journal*. His great achievement was a *History of Russia* (11 vols., 1810-29), which he brought down to the accession of Michael Romanov (1813).

Karanja, tn. of India, situated in Berar, and about 36 m. S.S.W. of Amraoti. Pop. 16,500.

Kara Sea, part of the Arctic Ocean in the N.E. of Russia, between Novaya

Zemlya and the Yalmal Peninsula, Siberia. On the W. it is entered by Matochkin Strait, and on the S.W. by the straits of Kara and Yugor. The chief inlets are Kara Bay and the gulf of Obi. It is only open for two months in the year; at other times it is blocked by ice.

Karat, see **CARAT**.

Karateghin, dist. of Central Asia, in the Garm Region of the Tajik or Tajikistan autonomous S.S.R., with an area of 4300 sq. m. It is very mountainous, and is watered by the Surkh-ab or Kizil-su. The chief occupations are agriculture and cattle-raising. The cap. is Garm or Harm. Pop. (composed of Tajiks and Kirghiz) 100,000.

Karatepe, anct. city of the Hittites in Asia Minor, which appears to have flourished for sev. centuries from c. 1900 B.C. In 1948 an expedition under the auspices of the Turkish Historical Society excavated a site there on four successive levels. The prin. discoveries include 1200 inscribed clay tablets, which may throw light on the hist. of the early Hittite Empire, some graves, and a number of fine pottery vessels some of which suggest the use of glaze.

Karauli: 1. State in Rajputana, India, with an area of 1210 sq. m. The soil is hilly and building stone is quarried. The chief manufs. are pewter and brass ware and cloth. Pop. 152,100. 2. Tn. and cap. of above state, fortified and surrounded by a wall of red sandstone. It contains sev. beautiful temples and a fine palace. Pop. 20,100.

Karel, Rudolph (b. 1881) notable modern Czech musical composer, b. at Prague. Studied at Prague Univ. and later devoted himself exclusively to music, being Dvorák's last pupil in composition. His composition is remarkable for soundness and a certain exuberance and for its broadly elaborate themes. When he did succeed in subordinating this exuberance to formal and intellectual control, as in his violin sonata *The Demon*, he reveals himself as an important influence in modern Czech music. Pub. also *Ilsa Heart*, an opera; *In the Glow of the Hellenic Sun*, a song-cycle; and various symphonies.

Karelia, Karelo-Finnish S.S.R. Annexed by Peter the Great in 1721. In 1940, following the Russo-Finnish war, a portion of Finnish K. was joined to the ter. of the autonomous S.S.R. of K., and admitted into the union as the Karelo-Finnish S.S.R.). The Karelians are a distinct branch of the Finnish race, inhabiting E. Finland, and numbering about 300,000. Most of the people are engaged either in fishing for herring, salmon, etc., or in hunting foxes and squirrels for their skins. The forests and marshes formerly rendered communications difficult, but the building in 1917 of a railway through K. from Murmansk to Leningrad greatly promoted the economic development of the country. The cap. is Petrozavodsk, on the W. shore of Lake Onega. Smaller ports are Soroka and Kem.

Both in the Russo-Finnish war and

during the Ger. invasion of Russia in the Second World War K. was the scene of much fighting between the Finns and Gers. on the one side and the Russians on the other—particularly in the region of the great lakes. Onega and Ladoga are on the isthmus of K. Pop. 900,000.

Karenni, dist. of Lower Burma, situated between lat. 18° 50' and 19° 55' N., and long. 97° 10' and 97° 50' E. The surface is principally high tableland of 3000 to 4000 ft., and is inhabited by the Red Karens. The dist., formerly a collection of small states, is now divided into E. and W. K., having a total area of about 3150 sq. m.

Karens, native race of Siam and Burma, dwelling among the hilly dists. They number about 727,000, and are supposed to have descended from certain Chinese tribes. Many of them have been Christianised. In 1947 they were represented in the Burmese Constituent Assembly by six members, but in 1948 began to manifest a wish to break away from Burma, and rebelled.

Karikal, Fr. colony, on the Coromandel coast, Madras, India. Its area is about 52 sq. m. The tn. lies about 150 m. S. of Madras, and exports large quantities of rice. Pop. (dist.) 58,228; (tn.) 17,000.

Karl August, Archduke (of Saxe-Weimar), see CHARLES AUGUSTUS.

Karl Eitel, Prince, see CHARLES I. (of Rumania).

Karl, Eugen, Duke of Wurttemberg, see CHARLES EUGENE.

Karl Franz Josef, Emperor of Austria-Hungary, see CHARLES I.

Karlfield, Erik Axel (1864-1931), Swedish poet, b. in Dalarna, a prov. of Sweden possessing a traditional peasant culture. He studied at Upsala Univ., and in 1904 was elected a member of the Swedish Academy, of which he was the permanent secretary from 1912. In 1907 he became a member of the Nobel committee. He refused the Nobel prize for literature during his lifetime, but it was awarded posthumously in 1931. His first vol. of poems, *Vildmarks och kärleksvisor* (*Ballads of the Wilderness and Love*) appeared in 1895. It did not create a great stir at the time, but he later came to be regarded as the leading Swedish poet after the death of Fröding. He developed an individual style, which owed little to his predecessors, and his poetry with its feeling for nature reflects the peasant life of his native prov. His best-known collections of lyrics are *Fridolins visor* (*Ballads of Fridolin*) (1896), and *Fridolins lustgård* (*Fridolin's Garden*) (1901). *Hösthorn* (*Cornucopia*) appeared in 1927. A selection of his poems trans. into Eng. was pub. in the U.S.A. in 1938 with the title *Arcadia Borralis*.

Karli, cave temple in Poona dist., Bombay, India, is 34 m. N.W. of Poona. It is the largest known Chaitya cave in India, and bears an inscription dated 78 B.C.

Karlins, see CARLOWINGIANS.

Karlova, or Karlowitz, tn. in Yugoslavia, on the Danube, near Ujvidek (Newatz). It contains a cathedral and is the seat of a Gk. archbishop. Famous red wine is made in the dist. Pop. 5700.

Karlovy Vary (formerly Wary or Vary; then Kaiser Karlsbad; then Karlsbad or Carlsbad). In 1918 it reverted to its Czech name. Tn. and watering-place of Bohemia, Czechoslovakia, situated on the Tepl near its junction with the Eger, about 70 m. N.W. of Prague. It lies in a narrow valley at an elevation of over 1000 ft. above sea level, and contains sev. famous springs, the water being alkaline. One of the best known is the Sprudel Spring, with a temp. of 165° F. The waters were known on account of their healing properties during the fourteenth century. The tn. before the Second World War also manufactured porcelain, kaolin being found in the neighbourhood. Amer. troops in the first week of May (1945) advanced to the line Karlovy-Vary-Budjovice-Plzeň, but were there halted while the Red Army cleared the E. and W. banks of the Moldau R. and occupied Prague. Pop. 25,000.

Karlskrona, fortified seaport tn., and chief naval station of Sweden, on the is. of Gotland, and four smaller ones, in the Baltic, is the cap. of the gov. of Blekinge. It was named after its founder, Charles XI. The is. is connected with each other and the mainland by fourteen bridges. The harbour, which can accommodate the largest ships, has arsenals, shipyards, and docks built from granite rocks; and is defended by strong fortifications. The chief trade is in matches, tobacco, and cloth. Pop. 32,300.

Karlsruhe, tn. of Germany in Wurttemberg-Baden, formerly cap. of the former grand duchy of Baden, situated nearly 400 ft. above sea level on a plain of the Hardwald, about 39 m. W.N.W. of Stuttgart. Once a prosperous commercial and communications centre, K. was partly destroyed in the Second World War. The city is laid out in the shape of an expanded fan, the streets all radiating from the palace as the centre. Its chief buildings are the palace (built in 1751), the court theatre, Zähringen museum, the hall of art, and the technical high school, but these have suffered damage. The ornamental fountains and palace gardens, used as a public promenade, were a feature. It is noted for the manu. of railway engines and cars, plated goods, gloves, brewing, machinery, furniture, carpets, cement, and stone-ware. Karlsruhe, i.e. 'Karl's Rest', was laid out in 1715 by Karl Wilhelm, margrave of Baden, who, owing to disputes with the people of Durlach, made his hunting-seat on the site, around which the tn. was subsequently built. Schwanthaler's statue of the Grand Duke Karl Friedrich stood in the centre of the Schosseplatz. Being on the trunk line stretching behind the middle Rhine from Frankfurt through Mannheim to the Swiss frontier K. was a vital communications centre in the Second World War and, consequently, was heavily bombed by allied aircraft before the launching of the offensive on the W. front. On May 27 (1944) heavy bombers, concentrating on the railway centres along the middle Rhine, delivered a damaging attack on the city. In the allied offensive K. was in

the Fr. Army sector. Resistance in the Rhine valley was initially stiff, but soon weakened, and K. fell to the Fr. on April 4, 1945. Pop. 189,800.

Karlstad, cap. of the co. of Värmland, Sweden. It stands at the N. end of Lake Vänern, on the is. of Thingvalla, and is connected with the mainland by bridges. It manufs. machinery, matches, and tobacco. It is an episcopal see. Pop. 31,300.

Karma, or **Karman**, Sanskrit noun denoting a deed or action. As applied to the action of a living human being, it is the doctrine that every action, good or evil, receives its reward or punishment. Hence it is concerned with the theory of transmigration, apparently unmerited reward or punishment having been caused by the K. of a previous life. The doctrine is found in the Buddhist and Jain religions. See also under **TRANSMIGRATION**.

Kármán, József (1769-95), Hungarian author, son of a Calvinist pastor. Practised law in Budapest. Wrote a novel, *Kanni Hagymóniai*, one of the best romances in Hungarian literature.

Karmathians, **Carmathians**, or **Qarmathians**, were a Moslem sect named after Hamdan Qarnad, a follower of Husam al-Ahwazi, who was a missionary of Ahmed, son of the Persian Abdallah Ibn Ma'mun, towards the close of the ninth century. The latter's object had been to undermine Islam and the Arabian power by a secret society with various grades, offering inducements to all classes and creeds. This society led its members on from an interpretation of Islam to a total negation thereof, and submission to the head of the society. There were seven, or later nine, stages of the society. In the first stage the initiate was taught that the mystery of the Koran needed explanation; he took an oath of submission, and paid a sum of money. He was then led on until in the fifth stage he was taught the uselessness of tradition and the temporary nature of Mohammed's precepts, and in the sixth stage was induced to give up prayer, fasting, etc. He was now no longer a Moslem; and in the other stages more freedom of thought was allowed. The Carmathians are last mentioned in 1050, but there is no doubt that at one time they were a powerful sect, for in 900 Abu Sa'id al Jannabi, the head of a Carmathian state in Bahrain, routed an army sent against him by Motadid. In Persia and Syria the Carmathians were succeeded by the Assassins (*q. v.*), but it is said that the sect still exists in parts of Syria, Persia, Arabia, and India. For their relation to the Fatimids see **FATIMIDS**.

Karnak, or **Carnac**, vil. of Upper Egypt, in the prov. of Kench, built on the ruins of the anct. city of Thebes. See further under **EGYPT**, *Exploration and History*.

Karnal, tn., cap. of K. dist., E. Punjab, India, 50 m. S.E. of Ambala, is of anct. origin. It is on the old bank of the Jumna, which has changed its course and is now 7 m. away. Wheat, millet, and grain are grown. The chief manufs. are textiles and shoes. Pop. 37,400.

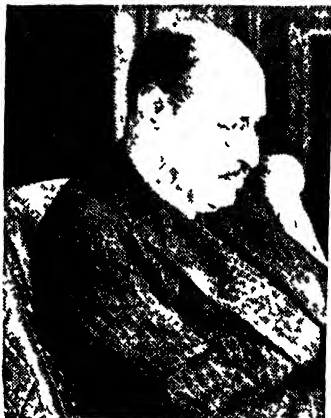
Karnatik, see **CARNATIC**.

Kärnten, see **CARINTHIA**.

Karnul, or **Kurnool**, tn., cap. of K. dist., Madras, India. 110 m. S.W. of Hyderabad, situated at the junction of the Hindri and Tungabhadra Rrs. It contains an old fort, now completely dismantled, has many cotton and other mills, and is an important trade centre. Pop. 26,000.

Karolsfeld, or **Carolsfeld**, **Sohnorr von**, see **SCHNORR**.

Károlyi, Michael Adam Georg Nikolaus, Count, Hungarian statesman, b. 1875 at Budapest; grandson of Georg, third count K. of Nagy-Karoly. Before the First World War he was a democratic leader, and, during it, opposed the Ger. hegemony.



Lipault Press

COUNT KAROLYI

He formed a ministry upon the defeat of the dual monarchy in 1918, and in 1919 was provisional president of the new republic of Hungary. From 1931 to 1932 he was Prime Minister, but went into exile when Adm. Horthy virtually estab. a dictatorship. During the Second World War he led the Free Hungarian movement and returned to Hungary in 1946.

Karr, Jean Baptiste Alphonse (1808-90), Fr. novelist, critic, and journalist, b. in Paris. His first work was *Sous les tilleuls*, pub. in 1832, of which the originality and charming humour and sentiment brought him fame. In 1839 he became editor of *Le Figaro*, and in the same year he started *Les Gaietés*, a monthly pub. in a keenly satirical tone; in 1848 he founded *Le Journal*. His other works include *Vendredi soir* (1835); *Le Chemin le plus court* (1836, a continuation of his autobiography); *Geneviève* (1838); *Un Voyage autour de mon jardin* (1845, one of his most popular works); *Feu Bressier* (1848); *Font en Thème* (1853, a book which had some influence in promoting educational reform); and his reminiscences, pub. in 1879-80, under the title of *Livre de bord*.

Karrer, Paul (b. 1889), chemist, was b. in Moscow of Swiss parents, and was

educated at Zürich Univ., where he was assistant to Alfred Werner, 1911-12. From 1912 to 1918 he collaborated with Paul Ehrlich at Frankfurt-am-Main. Since 1919 he has been director of the chemical institute of Zürich Univ. He has worked on vitamins, carbohydrates, carotenoids, etc., and was awarded the Nobel prize for chem. in 1937.

Karri, native name of an Australian tree, *Eucalyptus diversicolor*. It is one of the 'blue gums,' and from it is derived a hard red timber useful in making wood-paving.

Karoo (from Hottentot *karusa*, hard), name given to the high plateau in the Cape of Good Hope, S. Africa, lying between the coast mts. and the Orange R. basin. The area is divided into the Little K. and the Great K.; the latter is between the Nieuwveld Berge and the Zwarte Berge, and is crossed by the railway. During the dry season it is a sandy waste, but after the rains the soil is covered with luxuriant vegetation, which makes rich pasturage for sheep, goats, ostriches, and cattle. Area 100,000 sq. m.

Kars: 1. Vilayet in Asiatic Turkey, with an area of 7300 sq. m. It is watered by the Aras, Kur, and Arpachai Rs. The surface is mountainous and the climate changeable; cattle-raising is the chief occupation. Salt is found in the S. Pop. 383,200. 2. Tn., cap. of above prov., 115 m. S.W. of Tiflis, and connected with it by rail. In the sixteenth century it came into the possession of the Turks, and was fortified by Sultan Amurath III. In 1828 it was taken by Russia and restored to Turkey. Sev. times it was besieged, and finally stormed in 1877. It was ceded to Russia by the Berlin Congress in 1878, but after the First World War became again, with the prov., a possession of Turkey. A treaty between the Soviet Gov. and Turkey was signed here in 1921. It contains an eleventh-century cathedral and sev. mosques, and manufs. carpets and coarse textiles. Pop. 24,000.

Karshi, tn. in the Bokhara Region, of the Uzbek S.S.R., Russian Central Asia, 80 m. S.E. of Bokhara city. It manufs. cutlery, woollen goods, and carpets. Pop. 25,000.

Karst, name of a region of Yugoslavia, composed of high ridges of limestone which join the E. Alps to the Dinaric Alps, E. of Istria. A series of parallel fractures borders the N.E. Adriatic and continues inland; the N. Adriatic is a sunken hollow which has descended along these fractures. The limestone is porous and the water percolates and forms sinks, cañons, and caverns. Similar structure of land will produce the same result, and such a landscape is called a K. landscape; it is characterised by a barren aridity, in addition to the caves above mentioned. Examples may be seen in Derbyshire and parts of Yorkshire. See C. Droner, *Bau und Bild des Karsts*, 1903; and O. Lehmann, *Die Hydrographie des Karsts*, 1932.

Karun, the only navigable riv. of Persia, rises in the Bakhtiari Mts., and, flowing through Khuzistan, joins the Shatt-el-Arab at Mohammerrah. Small steamers

ascend to Ahwaz. It was used during the First World War by Brit. troops temporarily occupying the surrounding oil-bearing region.

Karvir, see KOLHAPUR.

Kaschau, or **Kassa**, see KOSICE.

Kas-Dagh, see INDIA.

Kashan, tn. in the prov. of K., Persia, 95 m. N.W. of Ispahan. It is on the direct route to Ispahan, and has a thriving trade in brass and copper ware, carpets, silk, and brocades. Pop. 45,000.

Kashgar, important tn. of Chinese central Asia, in Sinkiang. It is divided into two parts, called Kuhnä Shahr, or Old City, and Yangi Shahr, or New City. These are 5 m. distant from each other, and separated by the Kizil-su. Kuhnä Shahr is a clay-walled fortress built on an affluent of the Kizil-su after the destruction of the old K. in the early sixteenth century. The ruins of the old city Aski Shahr are still extant. K. is popular as a political, religious, and commercial centre; it is the seat of Mohammedan culture, and owns the famous shrine of Hazret Afak. The new city was built in 1833. The surrounding dist. (pop. 300,000) is very fertile and well irrigated. Silk and cotton, boots, shoes, and saddlery form the chief manufs. Pop. 80,000.

Kashgar, River, called in some parts the Kizil-su, rises in the Tian-Shan Mts., and flows 500 m. E. to join the Yarkand.

Kashgaria, name sometimes given to the dist. generally known as Chinese, or E. Turkestan, also called Sinkiang.

Kashka Darya, region of the Uzbek S.S.R., Russian Central Asia.

Kashmir (or **Cashmere**), properly Jammu and Kashmir, native state of India, bounded on the N. by the Karakoram Mts., on the E. by Tibet, and on the S. and W. by the Punjab and the N.W. Provs. In the time of the Brit. suzerainty of India K. was politically an important state, guarding the N.W. approach to India and, in fact, the State was itself created by Brit. military and political power. K. is divided physically into two parts, very unequal in area, climate, and pop., by the great Himalayan mt. system, which runs from the N. boundary of Chamba State to where Nanga Parbat Mt. towers 26,656 ft. above the Indus. The fertile vale of K. (the world-famous 'Happy Valley' of K.) and the Jammu-K. Plain, which is 120 m. long and 76 m. wide, the well-watered valleys and forested hills surrounding them, are drained by the Jhelum, the Chenab, and Ravi, the westerly three of the five rivs. of the Punjab. The mts. to the E. of the K. valley drain into the Jhelum R., which flows N.W. through the middle of the valley; the Indus being the only other riv. of importance. The chief passes to the N. from the valley are those of Kamri (14,000 ft. high), and Burzil (13,500 ft.), which is the pass from Srinagar to Gilgit. The valley is sheltered from the S.W. monsoon, and has a good climate, with an irregular rainfall. This area supports all but a twelfth of the state's pop. of 4,000,000. Beyond the Himalayan barrier, which allows only the scantiest rainfall, sturdy mountaineers of many

rares find a simple livelihood in the Indus regions, amid the glaciers and gorges of Gilgit, the Karakoram Mts. of Baltistan, and the arid uplands and plateaux of Ladakh. The smaller but more densely populated part of the state, Jammu and K. Provs., divides itself naturally into three geographical, ethnic, economic, and linguistic regions: K. the W. non-Kashmiri dists., and E. Jammu Prov., the first two drained by the Jhelum, the third by the Chenab and the Ravi (Kathua dist.). There are three similar trans-Himalayan frontier regions: the Gilgit area, Baltistan and Kargil (W. Ladakh), and Buddhist Ladakh. These six main parts of the state intermingle and overlap in some respects, but are broadly distinct and homogeneous. There are no particular geographical distinctions between the W. and E. parts of Jammu Prov. or Ladakh. Only the valley of K. and the Gilgit region are clearly defined by high mt. barriers. In addition to agriculture the chief industry is sericulture, which dates back to the fifteenth century. Forests cover about one-eighth of the total area. The chief crops are rice, wheat, oats, and barley, and various vegetables and fruits. Shawl-weaving and the manu. of carpets are the chief industries, and gold and silver ornaments, copper ware, and silk embroideries are manufactured; Srinagar (the cap.) is noted for papier-mâché work.

In early times the inhab. were snake worshippers (Nagas), but in the time of King Asoka, in 245 B.C., Buddhist missionaries visited the country. As Buddhism decayed, Hinduism took its place until, at the time of the Mongol invasion, Mohammedanism was introduced. K. became incorporated in the Moghul empire in 1586, having previously been under Hindu rulers and Mohammedan sultans. Then followed a period of Afghan rule from 1756 until the early nineteenth century, when it was invaded by the Sikhs. After the battle of Sobraon (see SIKHS) (1846), by the treaty of Amritsar, Lord Hardinge sold to Rajah Gulab Singh (the feudatory of Ranjit Singh) two provs. of the Sikh kingdom of the Punjab, K. and Hazara, besides confirming him in the possession of the surrounding hill states which his Jammu Dogras had conquered from local kings and chiefs in the previous quarter century or more of Sikh rule in K. Gulab Singh could not control the turbulent Moslem tribesmen of Hazara, and in 1847 gave it back to the Sikhs in exchange for the strip of Punjab plain S.E. of Jammu. K. he occupied only with the support of Brit. troops. Brit. supremacy was recognised from this time. In 1941 the total pop. was 4,021,600, the bulk of the pop. being Muslims, though the ruling family is Hindu. The next most numerous elements are Hindus and Sikhs. There are art. colleges at Srinagar and Jammu. The state is divided up into the provs. of Jammu, K., Ladakh, Baltistan, and Gilgit, with an area of 84,250 sq. m. K. is linked with the railway system of India by two motor roads, the Jhelum valley road, 132 m. of which run through the state ter., and the Banihal cart road

(200 m. long), which connects Srinagar, the summer cap., with Jammu, the winter cap.

After the partition of India (Aug. 1947) K. became a *casus belli* between the sister dominions of India and Pakistan, each of which claimed that K. State should come within its sphere of influence. Towards the end of 1947 K. became the scene of strife and misery, which developed out of the conflict between a section of the Moslem pop. (forming 73 per cent of the 4,000,000 Kashmiris), and the Hindu (Dogra) regime, headed by the maharajah. The misery of the people was accentuated by the devastation of large parts of the countryside, and the crowding of Hindu and Sikh refugees into the three main cities of Srinagar, Jammu, and Poonch, which was being held by the regime with the aid of Indian troops sent in Oct. in response to the maharajah's appeal for aid against the Moslem rebels and raiders from neighbouring ter., coupled with his accession to the Indian Union. But even before this conflict of 1947 K. showed remarkable contrasts of extreme poverty and great wealth, of scenic splendour and human squalor—contrasts due in large measure to the inefficiency of the existing regime. These evils were now aggravated by the undeclared war between India and Pakistan, and the rival claims of the two dominions came before the Security Council of the United Nations in Jan. 1948. The Indian Gov. asked the council to request Pakistan to refrain from taking part in the invasion; to withdraw its nationals from the invading forces, and to deny those forces the use of its ter. and its supply facilities in their operations. If these things were done the Indian Gov. would arrange for the people of K. to decide by plebiscite whether they wished to join India or Pakistan. The representatives of Pakistan retorted that the origin of the existing situation lay in an insurrection of the Moslem pop. against the tyranny of the Dogra ruling house. The insurgents set up a 'free government,' and when Sikh immigrants from the W. Punjab began to oppress the Muslims of Jammu, the 'free government,' having secured control of Poonch prov., was reinforced by partisans from tribal ter. Pakistan claimed that the Maharajah declared his accession to the Indian Union only when he despaired of making headway against this popular movement, and that the Indian Gov. had no right to accept an accession proffered on such conditions or to support the declining Dogra fortunes by sending reinforcements to attack the 'free government.' The Pakistan Gov., however, denied that it had recognised the free government in any way, but declared that it could not prevent recruits from tribal ter., or Islamic zealots from going to the aid of a Moslem movement for independence and self-determination. The maharajah's role in these events was somewhat ignominious. Originally he is said to have been resigned to K.'s accession to Pakistan because of geographical contiguity, economic dependence, and religious ties, but later

changed his mind when pressure was brought to bear on him through the influence on his entourage of certain Indian politicians. When the rebellion in Poonch, aided by Pathans from the N.W. frontier, assumed serious proportions, the Kashmiri State Army collapsed, and its Moslem elements joined the rebels. When the raiders entered the valley of K., and threatened the cap., Srinagar, the maharajah fled by night in a convoy of cars carrying his wives and treasures to the winter cap. of Jammu. It is noteworthy that within three months of the sudden withdrawal of Brit. military and political power—which had created the composite state of K., expanded it, and sev. times saved it from dangerous internal stresses—the state disintegrated into its component parts. It seems (1949) improbable that India, with all her planes and mon., will ever be able to put it together again. In Aug. 1948, however, a United Nations K. Commission arrived in India to inquire into the possibilities of a plebiscite. The elimination of two-thirds of the Muslims by extermination in the autumn of 1947 entirely changed the composition of E. Jammu prov. Partition of the K. state could only be made in this E. half of Jammu prov. There can be no doubt which dominion the whole state would join ultimately if pop., geography, and economy were the governing factors. On natural geographic and economic considerations alone, India could scarcely claim more than Kathua dist. up to the Ravi-Chenab watershed. Pop. 4,020,000. See Sir F. E. Younghusband, *The Heart of a Continent*, 1896; C. F. Tynedale Biscoe, *Kashmir in Light and Shade*, 1922; R. C. Kak, *Ancient Monuments of Kashmir*, 1933; S. Sinha, *Kashmir: the Playground of Asia. A Handbook for Visitors* (Allahabad), 1947; also *A Handbook of Jammu and Kashmir State* (Jammu), 1946.

Kashmiri Red Deer, see RED DEER.

Kasimierz, kings of Poland, see CASIMIR.

Kasimov, or **Kassimov**, formerly **Gorodets**, tn. in the Moscow Region of the R.S.F.S.R. It is a manufacturing tn. Pop. 20,000.

Kasr-el-Kebir, see AL-AZAR-KEBIR.

Kassala, tn. of the Anglo-Egyptian Sudan, situated on a trib. of the Atbara, about 280 m. S. of Suakin. The railway to Sennar passes through K. Before the Mahdi's rising it held an important commercial position; it was taken by Italy in 1894, and given back to Egypt three years later. It is a trade centre for lintrea; Amer. cotton is successfully grown here. The scene of an It. defeat by Brit. forces in the campaign which ended in the conquest of It. E. Africa, in 1941. Pop. about 25,000.

Kassassin, canal lock, Egypt, between Ismailia and Zagazig, just over 20 m. W. of Ismailia. Scene of the defeat of Arabi Pasha in 1883.

Kassel, or **Cassel**, tn. of Hesse, Germany, formerly cap. of the Prussian prov. of Hesse-Nassau, is situated on the Fulda, about 30 m. S.W. of Gottingen. The tn. itself consists of the Altstadt, the Oberneustadt, and Hohenzollern, the new quarter.

In the Oberneustadt are situated the old electoral palace and the Königsplatz, square noted for its echo. The tn. contains also a municipal library and a new picture gallery. It was here that Napoleon III. was kept a prisoner after the battle of Sedan. The tn. is noted for the manuf. of machinery engines, cars, mathematical and surgical instruments, musical instruments, and iron ware. From 1807–1813 K. was the cap. of Westphalia.

In the Second World War K. was an important objective in the allied plan for crossing the Rhine and establishing a strong force on the far bank. The plan was to launch a main attack N. of the Ruhr, supported by a strong secondary thrust from bridgeheads in the Frankfurt area, directed initially on K. to complete the envelopment of the Ruhr. Following the capture of Marburg the armoured advance on K. was under way by March 29 (1945). The crossing of the Rhine barrier was accomplished at fantastically small cost to the Allies. Gen. Eisenhower's (g.v.) next step was to envelop the Ruhr by converging thrusts from bridgeheads at Frankfurt and Wesel. In the course of the operations the Twenty-first Army Group and the Twelfth Army Group joined forces in the K.-Paderborn area, and the first allied airborne army were prepared to carry out an air drop in the K. area in order to seize the airfields there, and the Fler K. dam; but the rapidity with which the ground forces progressed rendered this airborne operation unnecessary. The encirclement of the Ruhr was completed by April 1, after which Gen. Omar Bradley (g.v.) was instructed to launch an offensive with the central group of armies from the K. area, towards Leipzig. K. itself was cleared on April 4, and the main allied advances to the E. began within the following week. Pop. 195,600. See WESTERN FRONT IN SECOND WORLD WAR.

Kāstamuni: 1. Vilayet of Asiatic Turkey, having on its N. the Black Sea. Area 19,570 sq. m. Pop. 384,000. 2. Also called **Kastambul**, cap. of the vilayet of the same name. It manufs. copper ware, there being copper mines near by. Pop. 20,000.

Kästner, Erich (b. 1899). Ger. writer, b. in Dresden. After contemplating teaching and banking as professions, he finally studied literature, living first by journalism; he was able to turn to writing by the income from his verse (*Hiers auf Taille* 1923; *Larm in Spiegel*, 1929; *Ein Taille, gibt Auskunft*, 1930). His most famous book, *Emil und die Detektive* appeared in 1929 (Eng. trans. *Emil and the Detectives*, 1930), dramatised, and later filmed in the U.S.A. Later works include *Drei Männer im Schnee* (1931; Eng. trans. *Three Men in the Snow*, 1935), also filmed, and *Die Verschwindende Miniatur* (1936; Eng. trans. *The Missing Miniature*, 1936). The humour and charm of his writings is remarkable amongst the bitterness of the post-war years.

Kastoria, tn. of Greece in Macedonia, situated to the S. of Monastir on the small lake of K. Pop. 8000.

Kastri, Argolis and Corinthia, *see* HERMIONE.

Kastri, Phocis, *see* DELPHI.

Kastro, *see* MYTILINI.

Kasur, tn. and important commercial centre in W. Punjab, Pakistan, 32 m. S.W. of Lahore. Pop. 53,000.

Katabolism, name for the processes which result in the oxidation or other decomposition of protoplasm within the living organism as opposed to anabolism, which is the name for the building-up of protoplasm, etc., from less complex substances. The two processes considered together are known as metabolism.

Katanduanes, *see* CATANDUANES.

Katanga, prov. of Belgian Congo, S.E. part of the colony, having an area of 180,000 sq. m. It is one of the most important mining districts in the world, with copper, gold, iron, tin, and uranium mines, and supplies 90 per cent of the world's radium; it is very fertile, and cattle thrive on its uplands because there is no tse-tse fly. Elisabethville is the cap. Pop. 980,000, of which 1000 are Europeans.

Kater, Henry (1777-1835), Eng. physicist, b. at Bristol; he entered the army in 1794, went to India with his regiment in 1799, and was of much assistance in the trigonometrical survey of India. In 1814 he retired on half-pay and devoted himself to scientific pursuits. His first important contribution to science was his proof of the superiority of the Cassagrainian to the Gregorian telescope; he carried on experiments for determining the length of a second's pendulum, and invented the floating collimator. In 1814 he was decorated with the order of St. Anne by Russia for his services in verifying the Russian standards of length, and in the same year was made a F.R.S.

Kater's Pendulum, *see under* PENDULUM.

Katha, dist. of Upper Burma, having an area of 6994 sq. m. Its chief riv. is the Irawadi, and its cap. is Katha. Gold, copper, iron, and lead are found, and rice, tea, scamum, and tobacco are produced. Pop. 290,000.

Katharine the Great, *see* CATHERINE II.

Kathiawar, peninsula of India, situated on the W. coast between the gulfs of Cambay and Cutch. It consists of 280 states and estates, which, in 1924, with those of Cutch and Palanpur, were, as the W. Indian State Agency, placed directly under the gov. of India. In 1948, following the achievement of Indian Independence, joined the first of the new unions—Saurashtra (*see also* INDIA (POLITICAL DIVISIONS AND EFFECT OF INDIAN INDEPENDENCE ON THE INDIAN STATES)). Area 37,894 sq. m. Pop. 4,900,000.

Kathode, *see under* ANODE and ELECTROLYSIS.

Katmai, volcano of the Alaska peninsula, 7500 ft. high; erupted June 6, 1912, creating the Valley of Ten Thousand Smokes.

Katmandu, *see* KATHMANDU.

Katō, Takasaki, Viscount (1860-1926), Jap. statesman. He was educated at the univ. of Tokyo, and in 1888 became private secretary to the minister for foreign affairs. He was director of the

banking bureau and of the taxation bureau, Finance Dept., 1891-94. From this date till 1899 he was envoy extraordinary and minister plenipotentiary at the court of St. James; minister for foreign affairs, 1900-1, and again in 1906. Baron 1911. Foreign minister 1914-15. Viscount 1916. In 1924 he became Prime Minister, and carried through manhood suffrage.

Katowice (Ger. Kattowitz), tn. in Upper Silesia, Poland. Transferred to Poland after the First World War. K. was captured in the Second World War by the Gers. in 1939, and lost by them in 1945. There are rich local coal and iron deposits, and the tn. has important manufs., including chemicals, building materials, and mechanical engineering. Pop. 133,000.



W. F. Munsell

ANGELICA KAUFFMANN
Self-portrait.

Katrine, Loch, lake of Scotland, situated in Stirlingshire and Perthshire, about 3 m. to the E. of Loch Lomond and 94 m. W. of Callander. It is about 8 m. long, less than 1 m. wide, and discharges its water through Lochs Achray and Vennachar to R. Forth. It also supplies the city of Glasgow with water. It is situated among some of the most beautiful scenery in Scotland, in the heart of the Trossachs, with Ben Venue and Ben A'an on its bank. The prin. scene of Scott's *Lady of the Lake* is laid on Ellen's Isle in this loch.

Katsura, Tarō, Prince (1847-1913), Jap. soldier and statesman. Military attaché at the Berlin embassy 1875-78. He became vice-minister of war in 1884; and served with distinction in the campaign of 1894-95, receiving the title of viscount. After being minister of war, 1898-1901, he was Premier for four years. For his services he was raised to the rank of count in 1902, and marquis in 1905, when King Edward made him a K.C.M.G. Prince, 1911.

Kattegat, see CATTEGAT.

Kattowitz, see KATOWICE.

Kaub, see CAUB.

Kaufbeuren, manufacturing tn. of Bavaria, Germany, 33 m. S.W. of Augsburg. Pop. 9500.

Kaufmann, Angelica (1741-1807), Swiss artist, and royal academician, b. at Chur in the Grisons. At the early age of eleven was painting portraits of its notabilities. She visited Milan, Rome, Bologna, and Venice, and appeared in London in 1766, one of her first works being a portrait of Garrick. She was befriended by Sir Joshua Reynolds and soon became famous as a painter of classic and mythological pictures and portraits. She is also known by her engravings from designs by Bartolozzi and others. See lives by Giovanni de Rossi, 1810; F. A. Gerard, 1893; and Lady Victoria Manners and G. C. Williamson, 1924.

Kauffmann, Nicholas, see MERCATOR, NICHOLAS.

Kaufmann, Constantine Petrovich (1818-82), Russian general, b. near Ivanogorod. He distinguished himself at Kars in 1855, and was appointed military governor of Turkestan in 1867, occupying Samarkand the following year. In 1873 he commanded the expedition against Khiva, and two years later conquered Khokand.

Kaulbach, Wilhelm von (1805-74), Ger. painter, b. at Arolsen in Waldeck. He was a pupil of Cornelius at the Düsseldorf academy, followed his master to Munich in 1825, and succeeded him as director of the academy there in 1849, an office which he continued to hold till his death. K. mastered the practice of mural or monumental decoration, and his realistic tendencies appeared in his book illustrations of Shakespeare, Schiller, Goethe's *Faust*, and *Reineke Fuchs*. He also showed creative imagination in the 'Destruction of Jerusalem,' and the 'Battle of the Huns.' His ultimate work was a vast canvas, over 30 ft. long, entitled the 'Sea-Fight at Salamis,' painted at Munich. See lives by H. Müller, 1892, and F. von Ostini, 1906; also J. Durck-Kaulbach, *Erinnerungen an W. von Kaulbach und sein Haus* (3d ed., 1922).

His nephew, Friedrich August von K. (1850-1920), b. at Munich, was a painter of historical scenes and portraits, and director of the Munich Academy.

Kaunas, see KOVNO.

Kaunitz, Wenzel Anton, Count, from 1761 Prince of Kaunitz-Rietberg (1711-1794), Austrian statesman and diplomatist, b. in Vienna. From 1742 to 1744 he was minister at Turin, and ambas. at the Fr. court from 1750 to 1752, forming an alliance between France and Austria. From 1753 to 1792 he was state-chancellor and chief minister, and in 1756 formed the coalition against Frederick the Great. See lives by Beer, 1872, and C. Kuntzel, 1923.

Kauri, or **Cowrie Pine**, *Agathis australis*, family Pinaceae, a tall conifer of New Zealand and the New Hebrides. Besides being the source of K. gum it produces a valuable timber, probably the best softwood in the world. The waste portions

(chips, sawdust, etc.) of the K. pine are utilized for making paper-pulp and the extraction of rosin.

Kavalla, see under NEAPOLIS.

Kavalla, cap. of the dept. of K., Macedonia, Greece, on Lake K. Tobacco-trade centre. Taken by the Turks in the First World War, but retaken by the Gks. in 1918. In the Second World War occupied by the Gers. in 1941 until their evacuation of E. Thrace in 1944. Pop. 50,000.

Kaveri, River, see CAVERY.

Kavirondo, dist. and native reserve of Kenya, N.E. of Lake Victoria, Nyanza. Two distinct races dwell there—Bantu and Negro tribes, but the K. are a non-Bantu-speaking tribe. The dist. is mostly fertile and well-watered, but a considerable amount of sheet and gully erosion has occurred in parts of the reserve, where the average under export crops such as cotton and sisal is increasing. The density of the pop. is increasing, and the area of virgin soil is growing less, so that the number of natives who have new land to administer is naturally dwindling. The N. K. tribes send some 38 per cent of their men yearly to work for various periods on farms and plantations. The Brit. Miocene expedition in recent years has exploited rich fossiliferous sites in K. Gulf and has found limb bones of a large ape of the early Miocene; this discovery was of particular interest, since knowledge of the extinct apes has been almost confined to jaws and teeth. The slender shafts of the longer bones appeared to indicate that the apes were light-built creatures, not yet specialised for an arboreal existence, and were able to run and leap with considerable agility, in contrast with the lumbering gait of modern anthropoid apes. See G. Wagner, *The Bantu of the Kavirondo*, 1949.

Kawardha, state and tn. of Central Provs., India, Bilaspur dist. Area 600 sq. m. Pop. 77,700.

Kawartha Lakes, Ontario, Canada: extend from Lakethird to Cobouok, a distance of 70 m., and include Katchawanookna, Clear, Buckhorn, Chemung, Stoney, Lovedick, Pigeon, Cameron, Sturgeon, and Balsam lakes. The system is connected with the Trent Canal, running from Georgian Bay via the Severn R. to Lake Simcoe and thence to Trenton, a total distance of 240 m. The K. L.—the name means bright waters—are full of romantic charm, and are much favoured by anglers, campers, and holiday folk.

Kawlun, see KOWLOON.

Kay (or **Ke**, **Kel**, **Queux**, etc.). Sir, in Arthurian legend, the foster-brother of Arthur, who made him his seneschal. Surnamed 'The Rude' and 'The Boastful,' he is represented as treacherous, malicious, and bitter and sarcastic in speech. He figures in the *Brut*, *Perceval li Gallois*, *Gilgamesh and Gawane* (pamphlet printed in 1508 by Chepman and Myllar), and *Gawain and Kay* (in the Dutch *Lancelot*). See T. Malory, *Morte d'Arthur*, 1485, and novel by E. P. Frankland, *The Bear of Britain*, 1944.

Kay, John, or **Kay of Bury** (fl. 1733-64), Eng. inventor, by 1730 a reed-maker for looms. In 1733 he took out a patent for

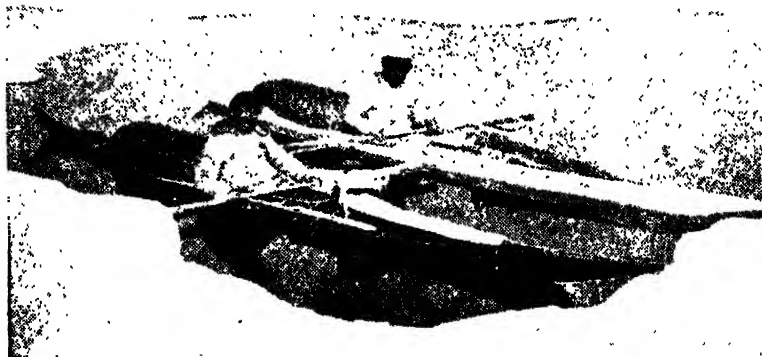
his fly-shuttle, by which arrangement only one hand was required to throw the shuttle backwards and forwards. He also invented the extended lathe and a card-making engine. See G. Guest, *History of the Cotton Manufacture*, 1823; A. Barlow, *The History and Principles of Weaving by Hand*, 1878.

Kay, John (1742-1826), Scottish caricaturist, a member of the Society of Surgeon-Barbers (1771). In 1785 he opened a print-shop in Parliament Close, Edinburgh, and produced miniatures and sketches of local celebrities. These are chiefly of antiquarian interest, as a record

Humperdinck and Schönberg. His writings include *Orpheus* (1927); *Vom Klang der Welt* (1937); and *Die Form der Geige aus dem Gesetz der Löwe konstruiert* (1946).

Kaysers, see KAYSERIEH.

Kay-Shuttleworth, Sir James Phillips (1804-77), Eng. politician and educationist, b. at Rochdale, Lancashire. In 1824 he became a medical student at Edinburgh Univ., and then gained experience by working among the poor in the Lancashire factory dists., which led to his appointment in 1835 as poor-law commissioner in Norfolk and Suffolk, and later in the Lancashire factory dists. In 1839



KATAKS

G. Kristensen

of the social life of his times. See collection of his portraits by Paton, 1838, 1842, 1877; W. Anderson, *Scottish Nation*, 1875; and S. Redgrave, *Dictionary of Artists*, 1878.

Kayak, or Kajac, Eskimo term for a fishing-boat, common to all dists. from Greenland to Alaska, strictly only for that used by one man. It is a long, narrow-decked canoe, the light wood framework being covered with sealskin, and weighs about 60 lb. An *umiak* (q.v.) is a larger type, capable of carrying heavy loads.

Kaye, Dr. John, see CAIUS, DR. JOHN.

Kaye-Smith, Sheila (Mrs. J. P. Fry) (b. 1889), Eng. novelist. Her novels deal mainly with Sussex rural life and include *The Tramping Methodist* (1908); *Sussex Gorse* (1916); *Green Apple Harvest* (1920); *Shepherds in Sackcloth* (1930); *Susan Spray* (1931); *The Ploughman's Progress* (1933); *Superstition Corner* (1934); *Rose Deeprose* (1936); *The Valiant Woman* (1938); *Ember Lane* (1940); *The Hidden Son* (1942); *Tambourine, Trumpet, and Drum* (1943); *Kitchen Fugue* (1945); *The Laidners and Laurelwoods* (1948).

Kaysers, Hans (b. 1891), Ger. musicologist, b. at Buchau, Württemberg, a pupil of

he was nominated first secretary to the committee of the Privy Council on Education, and was instrumental in establishing a system of gov. school inspection. He founded the first training college for school teachers at Battersea (1839-40) in conjunction with E. Carleton Tufnell. He was created a baronet in 1849, on his retirement from public life. He wrote numerous papers on education, and his *Physiology, Pathology, and Treatment of Asphyxia* became a standard textbook.

Kazakhstan, autonomous Kazakh Socialist Soviet Republic, was created in 1920, to include that part of S. Siberia inhabited by the Kazakhs (Kirghiz). K., comprising the govts. of Uralsk, Turgai, Akmo-linsk, and Semipalatinsk, was made a state member of the U.S.S.R. in 1936. To this republic were also added the parts of the old governorship of Turkestan inhabited mostly by Kirghiz. It consists of the regions N., S., E., and W. K., Akinolinsk, Aktyubinsk, Alma-Ata, Gur-yer, Jambul, Karaganda, Kyzyl-Ordia, Kokchetav, Kustanal, Pavlodar, Semi-palatinsk, and Taldy-Kurgan. The area of the K. S.S.R. is 1,056,000 sq. m., and

the pop. is 6,146,000. Situated far from the oceans, K. has a dry extreme continental climate. There are frequent dust storms, and in summer rainfall is slight. Near the Irtysh and other rvs. the grass vegetation is abundant; to the S. the characteristic brown soil zone supports a sparse steppe vegetation, water being scarce. On the banks of the salt lakes and streams are thickets of rushes, which serve to break the monotony of the landscape. The valleys, however, contain freshwater springs, and these are the spots chosen by the Kazakh herdsmen as their winter quarters. The steppe on each side of the Sary Su, which flows from the Kazakh Upland to the Syr-Darya, but is now overgrown, is the habitat of wolves, badgers, and foxes, which are hunted by the Kazakhs. For centuries the steppe and dry steppe lands of K. have been the home of nomadic herdsmen, but agriculture is the chief industry, state farms for increasing the grain supply occupying nearly 5,000,000 ac. before the Second World War, but to-day covering at least 10,000,000 ac. Centuries ago settled life had developed near the rvs. along the borders of the m.- in the S.E., and irrigation works were constructed. The new Kyzyl-Orda dam in the Syr-Darya is intended for water conservation for 100,000 ac. of rice plantations and, in time, to increase the irrigated area in the Kyzyl-Orda region to 375,000 ac. Across the country were caravan trade routes from China, India, and Mesopotamia. The tsarist settlers appropriated the more fertile lands, so that the majority of Kazakhs were forced to seek a precarious living as herdsmen. But in the last few decades great changes have taken place: modern farming technique has been adopted, and there are tractors and combine harvesters on the farms. Minerals include coal, iron ore, zinc, lead, oil, silver (undeveloped), and copper, a valuable deposit of which was found in 1928 near Lake Balkhash. The industrial development is in the direction of using the resources of oil, coal, and non-ferrous metals on the one hand, and of using the products of agriculture, especially cotton, on the other. The Karaganda coal basin is the third largest in Russia; copper refining and chemicals are amongst other industries.

This industrial development is reflected in the expansion of the railway communications. Before the First World War there was only one railway for the whole region from Orenburg to Tashkent. When, however, it was decided that the industries of the Asiatic Russian republics were to be planned in relation to those of W. Siberia and the Urals, it was essential to create new means of transport and altogether over 4000 m. of new railroad have been constructed. A railway crosses the republic from N.W. to S.E., and another in the E. connects with it and the Trans-Siberian line. Thus Novosibirsk is linked with Tashkent and Alma-Ata, and Petropavlovsk, by branch line, with Karaganda, and Dzhezkazgan, by another branch line, with Semipalatinsk. The chief tns. are Alma-Ata, the cap. (formerly Verny),

which has a univ., pop. 230,000; Semipalatinsk (110,000); Karaganda (a new tn., 168,000); Prebalkhash, a new tn., which has sprung up around the copper refineries on the N. shore of Lake Balkhash (50,000); Aktymbinsk (which has a chemical plant); Kounrad; Hilder; Karsak Pae; and Gur'yev (has a fish cannery). The republic has a total pop. of 6,146,000. See also KIRGHIZ.

Kazalinsk, tn. in the Russian region of Syr-darya, in the Kazakh S.S.R., on the Syr-Darya R., which floods the tn. in spring. It is situated at the junction of the prin. trade routes of central Asia, and carries on an active trade with the surrounding dist. Pop. 20,000.

Kazan: 1. Prov. of the Tatar autonomous S.S.R., R.S.F.S.R., and having an area of about 24,600 sq. m. The prin. rvs. are the Volga and the Kama, a large amount of the surface being covered by forests. Oil has been found. This gov. was annexed to Russia in 1552. Pop. 2,711,000. 2. Cap. of the Tatar autonomous S.S.R., lying about 200 m. E. of (or by Nijni-Novgorod) on the Volga R. The Kremlin, or citadel, contains a cathedral in which is an image of the Virgin famous throughout Russia. The univ. was founded in 1801. The chief industries are leather tanning, and the manuf. of soap, iron, steel, and cloth. There are also shipbuilding yards in the vicinity. The Tatar republic possesses a powerful electric power station here. There are chemical, wagon-building, and engineering works, and a large factory for the manuf. of typewriters. K. itself is an important trading centre between parts of Asia and Europe. Pop. 401,700.

Kazbek, or Casbeck, peak of the Caucasus, Georgia U.S.S.R., third highest in the range (16,546 ft.). The Deydorak glacier gives rise to huge avalanches, which sometimes stay the course of the Terek.

Kazembe, see CAZEMBE.

Kazinczy, Ferencz (1750-1831), Hungarian man of letters, b. at Kr-Semlyen. He started the first Magyar literary magazine in 1788. Imprisoned from 1794 to 1801 for his part in a conspiracy of the abbot Martinovics. His influence on the revival of Hungarian literature was great.

Kea, green New Zealand species of the Loridae, or Bush-tongued Parrots, the Maori name, K. being imitative of the bird's cry. Formerly living on fruit and insect grubs, during a time of scarcity it took to haunting the sheep stations and feeding on the offal of sheep killed for consumption. It soon showed a preference for the fat surrounding the kidneys and later developed into a bird of prey, attacking living sheep on the runs, and tearing off the wool and flesh of the loins to reach the kidneys.

Kea, see CANG.

Keady, linen-manufacturing vil. in Co. Armagh, Ulster, Ireland.

Kealakekua, bay in Hawaii, one of the Sandwich Is. It was here that their discoverer, Capt. Cook, was murdered in 1779.

Kean, Charles John (1811-68), actor the second son of Edmund K. (q.v.),

appeared at the age of sixteen as Young Norval in Home's *Douglas* at Drury Lane. The favourable impression he made secured him an engagement at the Haymarket, where he was successful as Hamlet. Among his other triumphs were Richard III., Sir Giles Overreach, and Louis XI. Many of the parts he created were, however, subsequently better played by Sir Henry Irving. He went more than once to the U.S.A., where he was heartily welcomed, and where he made much money. He married, in 1812, Ellen Tree. See life by J. W. Cole, 1859.

Kean, Edmund (1789-1833), actor, went on the stage as a child, at the age of twelve playing Prince Arthur in *King John*, with Kemble and Mrs. Siddons. In 1814 he won his spurs at Drury Lane with a magnificent performance of Shylock, and the reputation he then acquired was vastly increased by his Richard III. and Hamlet. He had his failures, but in the annals of the Eng. stage he was unrivalled in tragic roles. Owing to drunkenness and personal extravagance he fell on evil days in his last years. There are biographies by Barry Cornwall, 1835, and F. W. Hawkins, 1869.

Keane, Augustus Henry (1833-1912), ethnologist and writer on geography, was a student in Jersey, Italy, Dublin, and Hannover. His life, apart from travels in Europe and N. America, was spent in literary labour, which were recognised by the vice-presidency of the Anthropological Institute, and more substantially by a small civil list pension in 1897. He was the author of *Stanford's Asia, Africa, and Central and South America* (1832), whilst *Ethnology* (1896) and *Man, Past and Present* (1899) are two of his studies in anthropology.

Keane, John, first Baron Keane (1781-1844), Eng. general, entered the army at the age of twelve. In 1799 he became captain, serving sev. years in the Mediterranean, and also in Spain under Wellington, being made colonel in 1812, major-general in 1814, and general in 1815. From 1823 to 1830 he was commander of the forces in Jamaica. In 1839 he performed his most famous exploit, the capture of Ghazni, for which he was raised to the peerage. He was not so much a great as a fortunate soldier.

Kearley, Sir Hudson Ewbanke, see DEVONPORT, VISCOUNT.

Kearney, manufacturing tn. and the cap. of Buffalo co., in Nebraska, U.S.A. Pop. 9600.

Kearny, manufacturing tn. in Hudson co., New Jersey, U.S.A. Bridges spanning the Passaic connect it with Newark. Pop. 39,400.

Kearsley, or Kersley, tn. with coal-mines and cotton mills, 3 m. S.E. of Bolton in Lancashire, England. Pop. 10,200.

Kearton, Cherry (1871-1940), Eng. photographer and traveller, b. at Thwaite, Yorkshire. Pioneer of animal photography, and films of big game. A collected vol., *Travels*, appeared in 1942.

Kearton, Richard (1862-1928), Brit. field naturalist and author, b. at Thwaite-in-Swaledale, son of a yeoman farmer and himself a yeoman farmer. He was for a

time a sub-manager of the publicity dept. of Cassell & Company, but retired in 1898. He wrote numerous books on birds, many of them illustrated. Among the best known are *British Birds' Nests: How, where, and when to find and identify them* (1895); *Birds' Nests, Eggs, and Egg-collecting* (1896); *With Nature and a Camera: being the Adventures and Observations of a Field Naturalist and an Animal Photographer* (1897); *Wild Life at Home: How to Study and Photograph it* (1899); *At Home with Wild Nature* (1899); *Our Rarer British Breeding Birds* (1900); *Our Bird Friends* (1900); *Wild Nature's Ways* (1903); *Nature's Carol Singers* (1906); *Kearton's Nature Pictures* (1910); *Wonders of Wild Nature* (1915); *Wild Bird Adventures* (1923); and *A Naturalist's Pilgrimage* (1926).

Keats, John (1795-1821), Eng. poet; was intended to be a surgeon, and in 1816 was a dresser at Guy's Hospital, but soon he abandoned any intention of pursuing this profession. He made the acquaintance of Leigh Hunt, and began to publish verse in the latter's paper, *The Examiner*. Shelley, who greatly admired him, assisted him to bring out in 1817 a vol. of *Poems*, which attracted no attention among the general public. Undismayed by failure, K. began to write *Endymion*, which appeared in 1818, but did not at once win that chorus of praise with which it has since been rewarded. Indeed K. was bitterly attacked by Lockhard in *Blackwood's*, and Croker in the *Quarterly*, but after the first shock his confidence returned, and he was able to say: 'I think I shall be among the English poets after my death,' than which no self-criticism was ever more true. For K., poetry was the one and only calling, and, indeed, the clue to his whole artistic career is to be found in his words (written from Carisbrooke on April 18, 1817, before his fatal illness declared itself): 'I and I cannot exist without poetry—without eternal poetry—half the day will not do. . . . It was this devotion of his that helped him to triumph over gross circumstance and discouragement. An unfortunate passion for a young woman named Fanny Brawne (which was not reciprocated), whom he first met in 1818, conducted by its intensity to the undermining of his health, which was already broken. Consumption declared itself in Feb. 1820; he was ordered to a warmer climate; left for Italy in Sept. 1820 but d. in Rome on Feb. 23, 1821. The traditional view of K. as a moral weakling, who was killed by critical abuse of *Endymion*, is utterly ill-founded. The real K. was no decadent; rather was he courageous and even pugnaclous. His letters to Fanny Brawne, with their hectic bursts of passion, may in some measure be held to justify the legendary conception of him; but they were written at a time of great anxiety and fast-ebbing health; and indeed other letters of the same period to his brother in America and to various friends meanwhile give evidence of plenty of grit in his character.

His other works include *Hyperion* (1818-19); *The Eve of St. Agnes* (1819); *La*

Belle Dame sans Merci (1819); and *Lamia* (1820). In *Endymion* K. was trying his prentice hand; it is full of crudities and delights both of idea and style. In *Hyperion* he has mastered his instrument, and in its best passages his music and thought ring true and reveal the self-discipline which, in the interim, he had so rapidly acquired. In *Endymion*, there is every trick of egotistic fancy and the 'ornamental art of rhyme is employed in its extravagance along with the real and imaginative faculty of the mind'; *Hyperion*, on the other hand, contains some of the greatest poetry in the language.



JOHN KEATS

N P G

The painting by William Hilton, after a miniature by Joseph Severn.

The Eve of St. Mark, which he left unfinished at his death, is very different yet is equally authentic in mode as *Hyperion*. It revealed the pictorial element which is perhaps the most characteristic in all his shorter poems, particularly in *Lamia*, and has been well described as 'pro-Itaphaelism in a nut-shell.' In 1817 K. took up the study of Shakespeare's *Sonnets* and made a study of Shakespeare on the stage; but he was not the type of man to make a mere formal and exemplary critic and reviewer, and one is impelled in reading his reviews to speculate rather about his future as a dramatic poet himself had he lived. He acted on one or two occasions as dramatic critic to *The Champion*, but only to betray a most unaccustomed vein in a reviewer. K. had as much philosophy in him as perhaps even Shelley, but he was too fine an artist to let his philosophy dominate his muse. In a word, the poetry of K. is great in intellect as well as fantasy and his early death was one of the irremediable calamities of literature. His odes

are not excelled by those of any writer; his odes *On a Grecian Urn*, *To a Nightingale*, *To Autumn*, and *On Melancholy* being among the classic gems of Eng. literature.

From Dec. 1818 to 1820 K. lived in Wentworth Place, Hampstead. Wentworth Place in K.'s day comprised two houses, one shared by K. and Charles Armitage Brown, the other occupied by Charles Wentworth Dilke. Structural alterations were carried out and the building was opened in 1931 by Lord Crewe as K. House, comprising a K. Museum and a branch lending library by way of memorial to the poet.

Collected eds. of K.'s poetical works have been ed. by H. B. Forman (1883, 1889, 1900 1); E. de Selincourt, 1903, 1926; Sir S. Colvin (1915, 1920, 1924); J. Middleton Murry (1930); and H. W. Garrod (1939, the definitive ed.). Eds. of letters: R. M. Milnes (Baron Houghton), with life (1848; reprint by R. Lynd in Everyman's Library, 1928); Sir S. Colvin (1891); and M. B. Forman (1931, the definitive ed.). See lives by E. Dowden, 1886; Sir S. Colvin, 1887; R. Bridges, 1926; H. W. Garrod, 1926; D. Hewlett (1909), 1937, 1945; E. V. Weller (ed.) (1909), 1937, 1945; B. I. Evans, 1934; and B. Askwith, 1941. Also D. L. Baldwin and others, *A Concordance to the Poems of John Keats*, 1917; H. P. A. Fausset, *Keats: a Study in Development*, 1922; J. Middleton Murry, *Keats and Shakespeare*, 1923; M. R. Ridley, *Keats's Craftsmanship: a Study in Poetic Development*, 1934; Lord Gorell, *John Keats, the Principle of Beauty*, 1948.

Keble, John (1792-1866), Eng. divine, won a first-class honour, when, in 1811, he graduated from Corpus Christi College, Oxford; fellow and tutor of Oriel from 1811 to 1823; he was prof. of poetry in Oxford from 1831 to 1841; and finally in 1836 settled down in the country vicarage of Hursley, Hampshire, where he stayed till his death. In disposition K. was shy and unassuming, and, considering his talents, strangely unambitious. His friends have left generous tributes to his winning personality, his unsparing, devotion to his duties as par. priest, and his unselfish care of a sick father. A Tory and cavalier in politics, he was, according to Newman, the 'true and primary author' of the Oxford movement in the Eng. Church. It grew out of his famous sermon on 'National Apostasy', 1833, the High Church sympathies of which reappear in his contributions to the celebrated *Tracts for the Times*, in his standard ed. of Hooker's works (1836), and in all his sermons and poems. He is popularly known for his book of poems, *The Christian Year* (1827). See lives by J. C. Shairp, 1866; Sir J. T. Coleridge, 1869; W. Lock, 1892, with bibliography; and E. F. L. Wood (Lord Halifax), 1909.

Keble College, Oxford, founded in 1870, to the memory of John Keble (q.v.), and a striking, if unpleasant, example of the architecture of Wm. Butterfield.

Ke-cho, see HANOI.

Kecskemet, tn. of Hungary, 65 m. S.S.E. of Budapest, with soap, tobacco, leather

manufs., and trade in fruit, wines, and agric. produce. Pop. 83,700.

Ked, Sheep, see SHEEP LOUSE.

Kedah, state of Brit. Malaya, and, prior to the formation of the Malayan Union, classed as an Unfederated Malay State in treaty relations with Great Britain. It is bordered by the Siamese states of Songkhla and Patani, and by Perak (q.v.), and extends along the sea coast from the R. Sanglang, its boundary with Perlis (q.v.), to the Muda R., its boundary with Prov. Wellesley. The state includes the is. of Langkawi, and a number of adjoining is., of which Pulau Dayang Bunting is the largest. Its area, including is., is 3660 sq. m. The highest peaks, of the mainland, are Gunung Bintang (6100 ft.), K. Peak (or Gunung Jerai) (3940 ft.), and Bukit Perak (2823 ft.). The S. and central area consists mainly of undulating land broken up by ranges of high hills; this area is principally occupied by large rubber plantations. The N. and coastal belt contains the best rice-growing area in Brit. Malaya. The E. part along the Patani border is still largely undeveloped; its ranges of hills consist of granite, quartzite, and shales. The cap. of K. is Alor Star. Characteristic of the climate, as elsewhere in the Malay peninsula, are uniform temp., high humidity, and copious rainfall, except that in K. there is a well-defined dry season from mid Dec. to mid March. Little is known of the hist. of K. before the fifteenth century, though there are references to a country which is identified with K., in the works of Arab voyagers of the ninth century A.D., and in the Chinese chronicles of the Tang dynasty. It was, however, always known to abound in tin, and it was also known that its people were Buddhist. At the end of the fifteenth century the ruler of K. was converted to Islam. The Portuguese Barbosa, in a MS. of 1516, described K. as a place in the kingdom of Siam, to which many ships resort for trade in all sorts of merchandise; but Siamese influence did not save K. from Portuguese attacks in 1611, and in 1619 the Achinese carried its ruler into captivity. There is ample evidence of seventeenth-century Eng. trade with K., by both private merchants, as well as the E. India Company, but later, in 1683, the Dutch, who had obtained a concession in 1641, forced the Eng. company to concentrate on India. In the eighteenth century K. came under the influence of the Bugis, who were then dominant in Selangor (q.v.), and it was to secure assistance against them that the sultan of K., in 1771, approached Francis Light who, in 1786, concluded an agreement 'with the King of Quedah for the cession of Prince of Wales Island.' Penang was occupied by Capt. Light, and the Brit. flag hoisted there on Aug. 12, 1786, but a few years later the agreement was replaced by a treaty (1791) by which the K. Gov. was to receive an ann. subsidy from the E. India Company. In 1821 the Siamese invaded K., and divided it into four parts. Perlis, Setul, Kubang Pasu, and K. putting each under a separate ruler. In 1843 the sultan of K.,

who had lived in retreat in Malacca, was allowed to return to Alor Star and resume the rulership of K. Setul, Perlis, and Kubang Pasu, however, remained under their separate rulers, who were made independent of K. Later, Siam allowed Kubang Pasu, which is a thinly populated dist. on the N. border of K., again to become a part of K. Setul is now a part of Siam. Perlis is independent of the sultan of K. In 1909 under a treaty with Siam the suzerainty of K. was transferred from Siam to Great Britain. In 1923, by a treaty between K. and Great Britain, the K. Gov. agreed to continue to be under Brit. protection, and also to accept a Brit. adviser. Padi and rubber are the chief agric. products of K., and the areas under these crops in 1938 were 257,890 ac. (about 100 sq. m.) and 302,600 ac. (about 473 sq. m.) respectively. Other crops of commercial importance are coco-nuts, arecanuts, tapioca, bananas, and fruit trees of various kinds. Tobacco, coffee, chillies, ground-nuts, sago, sweet potatoes, and kapok are fairly widely, though sporadically, planted, and are of some economic importance locally. The railway connecting Brit. Malaya with Siam passes through K. In the Second World War the Jap., early on the morning of Dec. 12, 1941, attacked the Brit. positions on the Siamese border in K., with two divs., while another two divs. were operating in the Kota Bharu area of Kelantan. The Jap. used tommy-guns and armoured vehicles, and the day went against the Brit. forces. The Jap. then pressed down the coastal plain of K., and within three days had captured Penang. Pop. (1938) 481,242 (Malays and other Malaysians 323,327; Chinese 80,443; Tamils and other Indians 57,060; Europeans 700). See also MALAYA, BRITISH, JAPANESE INVASION OF (1941-42). See R. L. German, *Handbook of British Malaya*, 1935; R. Emerson, *Malaysia*, 1937.

Kedgerree, Indian dish of rice, boiled with onions, eggs, pulse, and butter. In European cookery it is a breakfast dish of cold fish, boiled rice, and eggs.

Kedleston, Marquess Curzon of, see CURZON.

Kedron, valley lying E. of Jerusalem; formerly crossed by a brook flowing towards the Dead Sea; near it was the N.T. Garden of Gethsemane. It was visited by Christ on his way to Gethsemane and by David in his flight.

Kedron Brook, see KIDRON.

Keel (botany), see CARINA.

Keeler, James Edward (1857-1900), Amer. astronomer, b. at La Salle, Illinois. In 1890, when he was working in the Lick Observatory, he showed by means of photography that a large percentage of the small nebulae of the heavens are spiral. Five years later, when he was director of the Alleghany Observatory, he verified by spectroscopic investigations the theory already advanced that Saturn's rings consisted of 'discrete particles of unknown minuteness.'

Keeley, Mary Ann, nee Goward (1806-1899) Eng. actress; left a lasting impression on all who saw her spirited

impersonation of Jack Sheppard in a play founded on Alnsworth's novel of that name. The hero, however, was a criminal, and the performance of the piece was accordingly forbidden. In 1829 she married the comedian Robert K. (1793-1869), and appeared with him at the Olympic with Charles Mathews, at Drury Lane with Macready, and with Kean at the Haymarket. Two of her finest roles were Nydia in *The Last Days of Pompeii*, and Smike in *Nicholas Nickleby*.

Keeling, or **Cocos**, Islands, group of twenty-three small coral is. in the Indian Ocean, 12° 5' S. and 96° 53' E. Discovered by Capt. Keeling in 1609, they came under Brit. protection in 1856, and since 1886 have been annexed to the Straits Settlements. Formerly owned by one Alexander Hare, who lived with some 200 slaves given to him by the rajah of Bander. Hare left in 1825, the next possessor being John Curries-Ross, whose family has ruled the is. since that time. They abound in coco-nut palms, and enjoy an equable, invigorating climate. Ferocious land-crabs are numerous. In the First World War the Ger. raider *Emden* destroyed the wireless station of the is., and it was off tl. coast of the is. that the *Emden* was destroyed. The is. were a Brit. bomber base in the Second World War. Pop. 1100.

Keene, Charles Samuel (1823-91), artist, at the age of nineteen was apprenticed to a firm of wood-engravers. He soon began to indulge his artistic tastes, and illustrated *Robinson Crusoe* and other works. After contributing to the *Illustrated London News* his drawings began to appear in *Punch*, the staff of which he presently joined. As a humorist he was delightful, and as a black-and-white artist he had no rival for technical skill in his day. There are biographies by G. S. Layard (1892) and D. Hudson (1917).

Keene, city on the Ashuelot R., 44 m. S.W. of Concord, and the co. seat of Cheshire co., New Hampshire, U.S.A. K., which is situated on a level expanse guarded by high hills, manufs. boots and shoes, chairs, pottery, etc., and has railway workshops. Pop. 13,800.

Keeper of the Great Seal, officer of state who holds the great seal, i.e. the lord high chancellor (q.v.), formerly called the lord keeper. The delivery of the great seal into the hands of the chancellor confers the chancellorship upon him. Since the union with Scotland (1707) there has been only one great seal for the United Kingdom. The great seal is used for sealing public documents of great importance, e.g. treaties, writs to summon a Parliament, the clerk of the Crown in chancery being the official who actually passes the documents under it. The use of the great seal has been largely superseded by that of wafer great seals made on wax or embossed paper. But treaties with foreign powers are still ratified by letters patent under the great seal. On a demise of the Crown, when a new great seal must be made, the old seal belongs to the chancellor, though it is first theoretically broken or 'damasked' by a light blow with

a hammer. See Lord Campbell, *Lives of the Chancellors*, 1845-47.

Keeper of the Rolls, see **CUSTOS ROTULORUM**.

Keeshond, or **Dutch Barge Dog**, medium-sized, sturdily built, with erect ears and curled tail. It has a long top coat and short, very thick under-coat, grey in colour, with darker shading forming 'spectacles' round the eyes. Handsome, intelligent, and quiet, the breed is becoming increasingly popular; though generally regarded as a new arrival in Britain. It is in fact identical with the Wolf Spitz or large Pomeranian, known in this country for over 150 years.

Keewatin (N. wind), former dist. of N.W. Canada, now absorbed in the provs. of Manitoba, Ontario, and the N.W. Terrs.

Kehl, tn. in Baden, Germany, situated on the Rhine opposite Strassburg. As a vil., in the closing years of the eighteenth century, it was immortalised by Desaix (see *DESAIX DE VEGORX*) and Gouvion de Saint-Cyr (q.v.). The little streams, the roads, and the is. in the Rhine being made famous by the valour of those great generals (see Stendhal, *Memoirs of Marshal Saint-Cyr*). Before the First World War it had developed into a manufacturing city, with a pop. in 1939 of 12,100. In the Second World War it was taken by the Allies on April 15, 1945, the capture clearing the way for bridging to be started at Strassburg.

Kel, or **Ke**, Islands, group in the Dutch E. Indies. They lie between 5° to 6° 6' S. and 131° 50' to 133° 15' E., S. of the W. end of New Guinea and W. of the Aru Is. They comprise Great K. and Little K. (which is volcanic), and smaller is. On Great K., also called Nuhu Yut, are mts. over 3000 ft. in height. Coco-nuts abound, and sugo, maize, tobacco, etc., are profitably cultivated. Polynesians, Papuans, and Malays make a pop. of 25,000.

Keighley, tn. in the W. Riding of Yorkshire, England, near the confluence of the Rs. Worth and Aire, 81 m. N.W. of Bradford. Produces woollen and worsted goods, textile machinery, and sewing-machines. Pop. 56,800.

Keijo, see **SEKOU**.

Keir, David Lindsay (b. 1845), Scottish constitutional historian. Educated at Glasgow Univ. and New College, Oxford, he became a fellow of Univ. College. In 1921, was univ. lecturer in Eng. constitutional hist. from 1931 until his appointment in 1939 as president and vice-chancellor of Queen's Univ., Belfast. In 1949 he became master of Balliol, Oxford. Pubs.: *Cases in Constitutional Law* (1928, with F. H. Lawson), and *Constitutional History of Modern Britain* (1938).

Keir Hardie, James, see **HARDIE**.

Keiser, Reinhard (1673-1739), composer of church music and the chief figure in the early development of opera in Germany. He left over 100 operas, of which the chief were *Adonis* (1697); *Cæsar* (1703); and *Cæsus* (1710); most of them being produced at Hamburg, where he passed the greater part of his life. In some ways K. is the precursor of Handel. See A. Schering, *Geschichte des Oratoriums*, 1911.

Keith, Sir Arthur (b. 1866), Scottish physiologist and anthropologist; b. at Old Machar, Aberdeen; son of John K. Educated univ. of Aberdeen and Leipzig; Univ. College, London. President Royal Anthropological Institute, 1912-14. Fullerton prof. of physiology, Royal Institution, 1917-23. Secretary, Royal Institution, 1922-26. President, Brit. Association, 1927. Pubs.: *Introduction to the Study of Anthropoid Apes* (1896); *Embryology and Morphology* (1901); *Ancient Types of Man* (1911); *The Human Body* (1912); *Antiquity of Man* (1915); *Menders of the Maimed* (1919); *Engines of the Human Body* (1919); *Nationality and Race* (1920); *Religion of a Darwinist* (1925); *Concerning Man's Origin* (1927). Ed. *Hughes's Practical Anatomy* (1902); and helped to edit *Troves's Surgical and Applied Anatomy*.

In 1925 K. pub. the second ed. of his *Antiquity of Man*, since which year there has been an intensive search for the remains of fossil man. In 1931 he pub. *New Discoveries relating to the Antiquity of Man*, a work which examined the discoveries of the past five years. It contains a very full discussion of the anthropological significance of the Taung skull found in 1924 near the Vaal R. Some assume that this skull typified the basal ancestry of the human stock and named it *Australopithecus*. K. sees in this skull an anthropoid ape, sharing many features with the two surviving African anthropoids, the gorilla and the chimpanzee. Other works include *Darwinism and its Critics* (1935); *Stone-Age of Mount Carmel Human Fossil Remains* (with T. D. McCoun, 1939), and *A New Theory of Human Evolution* (1948).

Keith, Arthur Berriedale (1879-1944), Brit. philologist and constitutional lawyer and historian; b. at Dunbar; educated at Royal High School, Edinburgh; Edinburgh Univ., and Balliol College, Oxford. Awarded Boden Sanskrit scholarship. Entered Colonial Office in 1901, but was later attracted to his chosen fields of research, and became regius prof. of Sanskrit and comparative philology at Edinburgh, which chair he held for thirty years. He was able to combine with it academic appointments in constitutional law and hist. He was a writer of great industry and erudition in two widely different fields of study: In the subjects of his professorship he produced two massive vols., *The Religion and Philosophy of the Veda and Upanishads*, and a popular sketch of *Classical Sanskrit Literature*; while his monograph on *Buddhist Philosophy in India and Ceylon* goes far to correct the nineteenth-century conception of E. thought as an inchoate anticipation of the most modern schools of the W. In constitutional law his voluminous treatises kept him abreast of a constitutional system that seemed to be moving somewhat too fast for him, and he lacked the genius of A. V. Dicey—whose *Conflict of Laws* he ed.—for focusing attention on unchanging principle in the midst of change, and at times he seems to mingle his own prejudices and opinions on ephe-

meral issues of party politics with his constitutional exposition. His most competent works in this field are *The Sovereignty of the British Dominions* (1929); *The Governments of the British Empire* (1935); *A Constitutional History of India, 1600-1936* (1936); *The King and the Imperial Crown* (1938); and *The Constitution of England from Queen Victoria to George VI.* (1939). A diligent and gifted scholar, his literary output was prodigious, but his work requires sifting before its permanent value can be assessed.

Keith, Francis Edward James, known as **Marshal Keith** (1696-1758), Scottish soldier, b. near Peterhead, son of an old Scottish family. Took part in the Jacobite rebellion, and then did military service in Spain and Russia. Afterwards entered the service of Frederick the Great, and rose to field-marshal's rank. Killed at Hochkirch.

Keith, George Elphinstone Keith, Viscount (1746-1823), Eng. admiral, distinguished himself as commander of the *Perseus* under Lord Howe in the siege of Charleston (1780), and again under Lord Hood during the siege of Toulon (1793). In 1796 he wrested from the Dutch their settlement in the Cape of Good Hope, and obliged a detachment of their fleet to surrender in Saldanha Bay. The following year he assisted in the suppression of the mutiny at Sheerness, and in 1799, as commander in Sp. waters, effected a skillful landing at Aboukir.

Keith, mrkt. tn. of Banffshire, Scotland. It is situated 45 m. N.W. of Aberdeen by rail. It is an agric. centre and manufs. tweeds. Pop. 4200.

Kekulé von Stradonitz, Friedrich August (1829-96), Ger. chemist; was persuaded by Liebig to take up chem., and after studying in Gießen and conversing with leading chemists in Paris and England, accepted a professorship of his science at Ghent (1858), and later at Bonn Univ. (1865). Besides editing *Annalen der Chemie* he pub. *Lehrbuch der organischen Chemie* (1861-87). His 'closed-chain' theory of benzene (q.v.) gave a remarkable stimulus to the preparation of aniline dyes, whilst his doctrine of valency played an important part in the development of chemical theory. See F. R. Japp, 'Kekulé Memorial Lecture,' in the *Journal of the Chemical Society*, 1898; and R. Anschütz, *Kekulé*, 1929.

Kelantan, a state of Brit. Malaya and, prior to the formation after the Second World War of the Malayan Union, classed as an Unfederated Malay State in treaty relations with Great Britain. It was formerly a state of Siam, S. of the Patani States. The area is 5750 sq. m. Behind a low sandy coast line 60 m. long lies a fertile plain 1000 sq. m. in area, densely populated and closely cultivated with rice, coco-nut and fruit trees. S. of this plain, the country is hilly and broken, the highest (6000 ft.) hills forming the boundary with Perak, and those on the Pahang border also rising to 6000 ft. This part of K., though thinly populated, contains the bulk of the Brit.-owned rubber estates and also the whole of the aboriginal pop. The

climate is characterised by high humidity and copious rainfall, the State being in the equatorial zone of constant precipitation. Little is known of the early hist. of K. folklore derives the name from *glam hulan* (*Melaleuca leucadendron*) a swamp tree of the coast but actually 'Kedah' is one of those *krama* or alternative forms like the Malay *kuala* and *kuantan* 'estuary'. *Pah* and *Pantan* river due to the splitting of Javanese Malay, and Sundanese into separate languages. Mahmud the last sultan of Malacca who ruled from 1488 to 1511 conquered K. A Pahang raja Ali Jalla Idris Shah who was sultan of Johore 1580-1597 had a son Raja Hussin who became ruler of K.

severe fighting in the Kota Bharu area after the Jap had landed on the beaches S. of the tn. but the Jap being much better armed soon overcame resistance and continued their advance down the peninsula. See MALAYA BRITISH JAP. ANTI INVASION OF (1941-1942).

Kelât, see KALAT

Kelisman, see CIZOMFEN

Kellaways Rock, geological name for alternate layers of highly fossilised sands and clays among which irregular calcareous sandstones are freely interspersed. The name is derived from a Wiltshire vil.

Keller, Gottfried (1819-90) Ger. poet and writer of fiction was the son of a master printer of Zurich. For two years



A VILLAGE ON THE KELANTAN

The state cap Kota Bharu which is situated 6 m. from the mouth of the K. R. appears on Portuguese and Dutch maps of the sixteenth century and then disappears till 1811 in the eighteenth century. A treaty was made in 1811 between Great Britain and the ruler of Kedah providing that the sultan of K. should receive a Brit. adviser. The chief products of K. are rice, coconuts (10,000), oil palm, pepper, tapioca etc. Mineral resources are said to comprise gold and manganese besides tin. Sawing and boat building are carried on. Copra, rubber and betel nuts are exported. Kota Bharu the cap lies 110 m. N.E. of Penang and has a pop. of 15,000. Other tns are Kuala Krai in the S. and Pasir Puteh in the N. and K. which has a considerable trade in the native products. Total pop. (1938) 391,200 (370,500 Malays, 29,300 Chinese and 11,400 Indians) connected with Bangkok and also with Penang through Kedah and through Pahang with Singapore. One of the first objectives of the Jap. in their invasion of the Malay Peninsula in Dec. 1941 was the aerodrome of Kota Bharu. There was

he studied art in Munich but early discovered that literature was his vocation. He lived in Berlin (1850-55) and from 1861 to 1876 acted as secretary to his native canton. His vol. of poetry *Die Lichte* (1846) emphasises his high creative faculty whilst the writing of *Der grüne Heer* is his finest novel (1853) imbued with imaginative temperament realising a love to beauty and the nobler emotion. K. was peculiarly felicitous in his handling of the short story and his sketches of Swiss provincial life entitled *Die Leute in Seldwyla* (1856) a second series of which appeared in 1874 have become classic (Eng. trans. by J. Hottelinger). In this vol. are *Die drei gerechten Kammern* and *Romeo und Julia auf dem Dorfe* the first of which shows the richness of his humorous vein whilst the impression left by the tragic intensity of the latter does not soon pass away. See H. Kriest, *Gottfried Keller als Politiker* 1915 and F. Buri *Gottfried Kellers Glaube* 1941 also lives by Ricardo Huch 1904 and I. Ackermann, 1939. Keller Helen (b. 1880) Amer. writer, has been deaf and blind since the age of

nineteen months as the result of illness. Was educated by Mrs. John Lacy and at Radcliffe College. Has lectured throughout U.S.A. and Canada, and in Great Britain, Yugoslavia, and Japan. Writings include *The Story of my Life* (1902); *Optimism* (1903); *Out of the Dark* (1913); *Helen Keller's Journal* (1938); and *Let Us Have Faith* (1940).

Kellermann, François Christophe de (1735-1820), duke of Valmy and marshal of France, b. in Alsace, son of a peasant; entered the army at seventeen; served in the Seven Years war. He was a Republican throughout the Great Revolution. His brilliant victory over the duke of Brunswick at Valmy (1792) delivered the infant republic from the dread of Prussian domination, and, in the words of Goethe, 'opened a new era in the world's history.' Under Napoleon he was given the command of the reserves on the Rhine. In 1804 he became a marshal, and in 1809 duke of Valmy. His support of the Bourbons after 1814 was rewarded with a seat in the Chamber of Peers.

Kelley, Edward (1555-85), Eng. alchemist, b. at Worcester, bred as an apothecary and early acquired some skill in chem. John Dee (q.v.) cast his horoscope and later figured prominently in his life. K. is supposed to have been educated at Gloucester Hall, Oxford, but apparently under the assumed name of Talbot. In the ensuing years he figures as a fraudulent scrivener and attorney in London. He was pilloried at Lancaster (1580) for forging auct. title-deeds. He declared himself an adept in the occult sciences. Acting on 'supernatural' advice Dee decided to co-operate with K. in researches in that science, and K. thenceforth became Dee's 'skryer' or speculator, interpreting the wishes of the spirits to his master by means of magic crystals—Dee thus becoming the dupe of his own assistant. Went to Bohemia, where he practised crystallo-mancy at the court of Rudolf II. (1583-89), was imprisoned in Prague and lost his life in trying to escape. Though a charlatan, K. was a man of considerable abilities and imagination, and is credited with two poems and other writings, including a treatise in Lat. on the philosopher's stone, issued in 1676. He figures in Butler's *Hendrickus* (canto iii.).

Kellgren, Johan Henricus (1751-95), Swedish poet, studied at the univ. of Åbo, was joint-editor and editor of the *Stockholms posten*, and served Gustavus III. as librarian and secretary. His controversial writings, against Thorild and others reveal his mastery over satire and his deficiency in humour. But these will be forgotten, when his collected songs in *Nya Skapelse* (1789) and the many lyrics scattered up and down his four librettos are still remembered.

Kellner Cell, type of electrolytic cell used in the manuf. of caustic soda by the electrolysis of brine. It is named after its inventor.

Kellogg, Frank Billings (1856-1937), Amer. lawyer and politician, b. Potsdam, New York. Came into national notice in the U.S.A. when he was named special

counsel for the gov. in its prosecution of the Standard Oil Company and its action to dissolve the merger of the Union Pacific and S. Pacific railways systems. Elected to the U.S.A. Senate for the term 1917-1923. In 1921 appointed Amer. ambas. to the Court of St. James's, resigning in 1925 to become secretary of state in President Coolidge's Cabinet, which position he held until 1929. Under his regime, America intervened in Nicaragua, thus beginning what the Lat. Amers. call the country's dollar diplomacy or dollar imperialism. For his part in the Kellogg Pact (q.v.) he was awarded the Nobel peace prize for 1930. Judge of the permanent court of International Justice, 1930-35.

Kellogg Pact. The K. P., officially called the Paris Pact of 1928, was initiated by Frank B. K. (q.v.) U.S.A. secretary for state, in association with M. Briand of France. It is a remarkably brief document, and consists of only three paragraphs of which the most important is a declaration condemning recourse to war for the solution of international controversies and renouncing war as an instrument of national policy in the relations of the signatories with one another. The pact was concluded on Aug. 27, 1928, and before the year was concluded fifty-nine nations out of sixty-seven comprising the world of independent states had signed it. See D. H. Miller, *The Peace Pact of Paris*, 1928; H. Wilson Harris, *Arms or Arbitration*, 1928; and M. Fanshawe, *World Disarmament*, 1931.

Kells, mkt. tn. of Co. Meath, Eire, 38 m. N.W. of Dublin, connected by rail with Dublin and Drogheda. Its interest is antiquarian. In the churchyard stands an auct. round tower (80 ft.) and in the market-place a carved stone cross. The stone-roofed cell of St. Columba, who dwelt here in the sixth century, is still shown. Pop. 10,800.

Kells, Book of, finest extant early Irish illuminated MS. of the Gospels written in Lat., one containing also local records, dating from the eighth century. It is now preserved in Trinity College, Dublin. As an example of its remarkable ornamentation it may be noted that in one space of about $\frac{1}{4}$ inch square may be counted, with a magnifying glass, no fewer than 158 interlacements of a slender ribbon pattern, formed of white lines, edged with black ones, upon a black ground. Hence the tradition that these unerring lines should have been traced by angels—'tam delicatas et subtilis . . . tam nodosus et vinculatus colligatus . . . notare poterit intricaturas, ut vere hæc omnia angelica potius quam humana diligentiâ jam asseveraveris esse composita' (Giraldus Cambrensis).

Kelly, Hugh (1739-77), playwright, b. in Killarney, Ireland. He came to London and lived for a time in great privation, but ultimately procured a remunerative position in an attorney's office. From about 1762 he wrote essays, poetry, criticisms, and on politics. His poem *Thespia, or a Critical Examination into the Merits of all the Principal Performers belonging to Drury Lane Theatre*,

attracted Garrick, and *False Delicacy*, a comedy, was produced under his auspices. A *Word to the Wise* was a failure—in Boswell's words, 'fell a sacrifice to popular fury, and, in playhouse phrase, was damned'—owing to a demonstration by John Wilkes and his supporters. Johnson wrote a prologue for a benefit performance of the play in 1777. K. pub. besides *Imenidia* (1771, a tragedy); *The School for Wives* (1773); *The Romance of an Hour* (1774); and *The Man of Reason* (1776). See M. Schorer, *Hugh Kelly: his Place in the Sentimental School*, 1933.

Kelly, James Fitzmaurice, see FITZMAURICE-KELLY.

Kelly, Michael (c. 1764–1826), actor and musician. He appeared as a child actor in Dublin, and studied music under Michael Arne and others, also singing under various It. masters. In 1779 he went to Italy for further studies; engaged at the Vienna Court Opera for four years; became friendly with Mozart and sang in the first performance of *Figaro*. He went to London in 1787. He was manager of the King's Theatre, London, from 1793, and wrote the musical settings for many plays, including *Sherrin*, *Pizarro*. He was the author of many songs, the best known of which are *Flora MacDonald* and *The Woodpecker*. His *Reminiscences*, composed from his own materials and written by Theodore Hook (1826), are very interesting.

Kelmis, see MORLSNET.

Kelmscott Press, see MORRIS, WILLIAM.
Kelp, the product of the combustion of seaweeds. It appears as hard dark-greyish masses, and that of most value is obtained from driftweed, such as *Fucus vesiculosus*, *F. serratus*, *Laminaria digitata*, and *L. senophylla*. These are dried in the sun and burnt in shallow pits, one ton of K. being obtained from about twenty tons of seaweed. The product consists chiefly of potassium sulphate, 14 per cent; potassium chloride, 17 per cent; sodium chloride, 14 per cent; sodium carbonate, 4 per cent; and smaller quantities of potassium and sodium iodides and other salts. The value of the K. lies in its iodine content. The K. is mixed with manganese dioxide and concentrated sulphuric acid and distilled, when iodine vapour comes off and is condensed in flat receivers called *uclcs*. See IODINE.

Kelpie, ('tangle' or 'shelly-coat'), in Scottish mythology, a kind of water-sprite or riv. genius, usually with the appearance of a shaggy horse (sometimes of a man) supposed to appear as a warning to those destined shortly to be drowned near the spot where it appears.

Kelso, mkt.-tn. in Roxburghshire, Scotland, 42 m. S.E. of Edinburgh. The Tweed here joins the Teviot, crossed by a handsome five-arch bridge 165 yds. long. Its manu. are chiefly manures, oil cake, iron founding, and implements. Sir Walter Scott was a pupil at the old grammar school in 1783. There are the ruins of an abbey founded 1120. Pop. 4,100.

Kelt, see SALMON.

Kelts, see CELTS.

Kelty, vil. of Scotland in Fifehire and

Kinross-shire, 6 m. N.E. of Dunfermline, with coal mines. Pop. 7800.

Kelvin, William Thomson, first Baron Kelvin of Largs (1824–1907), Brit. scientist, educated at Glasgow, Cambridge, and Paris. After a distinguished college career he became prof. of natural philosophy at Glasgow Univ. (1846–99). He ed. various mathematical journals, contributing to them the results of his researches in physical phenomena, electricity, heat, magnetism, elasticity, vortex motion, etc. He was knighted (1866) for his discoveries in the transmission of electrical currents, and was electrical engineer for various ocean telegraphs, beginning with the Atlantic cable (1857), and ending with the Mackay-Bennett cable (1879). Lord K. made great improvements in signalling apparatus, and invented a new form of mariner's compass (1873–78), and a deep-sea sounding machine. He did most valuable work also in thermodynamics. He was president of the Brit. Association in 1871, of the Royal Society from 1890 to 1895, and was given the title of Lord K. in 1892. His various papers have appeared in book form as *Electrostatics and Magnetism* (1884); *Mathematical and Physical Papers* (1882–84); *Popular Lectures and Addresses*; *Baltimore Lectures*, etc. (1904). With P. G. Tait he wrote *A Treatise on Natural Philosophy* (1879–83). See C. Bright, *Story of the Atlantic Cable*, 1903; also lives by O. Munro, 1902; A. Grev, 1908; S. P. Thompson, 1910; A. King, 1925; and H. N. Cotton, 1930.

Kelvin's Absolute Scale of Temperature, see under THERMODYNAMICS.

Kelvin's Law, see ELECTRICITY AND MAGNETISM, Thermo-electricity.

Kemal, see ATATÜRK.

Kemble, Charles (1775–1854), actor, made his first appearance at Drury Lane in 1791, and quickly rose to an important position in his profession. He played leading parts in London for many years, and in 1822 became manager of Covent Garden. His farewell performance in 1836 was as Benedick at the Haymarket. Although he played the prin. tragic roles his successes were made in comedy.

Kemble, Frances Anne, afterwards Mrs. Butler (1809–93), actress, was the daughter of Charles K. At the age of twenty she appeared as Juliet at Drury Lane under her father's management, and at once achieved a great success. Nor was her subsequent career on the stage less satisfactory, and both in England and America she became very popular, and remained so until her final retirement in 1849. Actually she retired on her marriage in 1834 but returned in 1847. She came back to England in 1877. She wrote sev. plays and poems, and *Notes on some of Shakespeare's Plays* (1882); and pub. the very interesting autobiographical *Record of a Girlhood* (1878); *Records of Later Life* (1882); and *Further Records* (1891). She was a very charming person, and very much beloved by men of letters, who corresponded with her regularly. Especially was she a favourite of Edward Fitzgerald, whose letters to her have been

ed. by W. A. Wright, 1893. See H. Gibbs, *Affectionately Yours, Fanny*, 1947; also lives by D. Bobbe, 1931, and M. Armstrong, 1938.

Kemble, John Mitchell (1807-57), historian, was educated at Cambridge, where he was one of the set known as 'The Apostles.' He studied philology in Germany under Grimm, and on his return was recognised as an authority on A.-S. He was a many-sided man. In 1833 he produced an ed. of *Beowulf*; from 1835 to 1844 presided over the destinies of the *British and Foreign Review*, and was examiner of plays from 1840. His prin. works were *Codes Diplomatics .Eri Saxonici* (1839-1845), and *The Saxons in England* (1849).

Kemble, John Philip (1757-1823), Eng. actor, b. at Prescott, Lancashire. He was sent to a Rom. Catholic school to be trained for a priest, but he felt no call to take holy orders, and in 1776 abandoned all idea of so doing. In that year he played Theodosius in Leo's tragedy of that name at Wolverhampton, and he remained in the provs. until the autumn of 1783, when he appeared at Drury Lane as Hamlet—a performance that aroused much controversy. For nineteen years he remained at Drury Lane, and during that period played most of the great Shakespearean roles. There is a biography by H. Baker, 1912.

Kemble, Maria Theresa (1774-1838), actress, came to England from Vienna about 1786, and acted at Drury Lane under her maiden name of De Camp. She made a popular success six years later as Macheath in *The Beggar's Opera*, and thereafter played leading parts, including Portia and Desdemona. After her marriage to Charles K. in 1806 she continued to act until her retirement in 1819. In 1808 she played in her own comedy, *The Day after the Wedding*, at Covent Garden on the occasion of her husband's benefit.

Kemerovo, tn. in the Novosibirsk Region of the R.S.F.S.R., on the R. Tem, S.E. of Tomsk. Developed under the five-year plans, it is a centre for coal-mining and coke-manufacturing, and zinc, lead, chemicals, and fertilisers are produced. Pop. 132,909.

Kemmel Hill, important position on the W. Front in the First World War, acting as an essential observation post during the long and weary sojourn of the Brit. troops below the Messines Ridge. It was the scene of very bitter fighting during April 24 to 27, 1918, in the Lys battle, the Gers., by sheer weight of men and metal, forcing the Brit. and Fr. to give way; but they were unable to exploit these successes. In the final allied advance to victory the Gers. relinquished the position without striking a blow.

Kempe, Anna Eliza, see BRAY.

Kempen: 1. In the Rhineland, Germany, manufacturing textile fabrics. Noted as the bp. of Thomas a Kempis (q.v.). Pop. 9000. 2. Or Campine, region of N.E. Belgium stretching between the Scheldt and the Meuse to the N. of the Dyle and the Demer. The dist. is chiefly in the provs. of Antwerp, but it extends also into Belgian Limbourg and Dutch

Brabant. Two important canals pass through the K., of which the latest, the Albert Canal, has been planned to assist the wide industrialisation of the region because the sandy heath land covers an important coal basin whose exploitation commenced only in 1918. Heerenthals and Turnhout are the chief tns.

Kempfenhof, Richard (1718-82), Eng. rear-admiral, served with distinction in the W. Indies and under Pocock in India (1758-59). When Lord Howe was commander of the fleet (1782) K. served under him. He went down with the *Royal George* at Spithead. Howe improved and adopted his system of signalling. He wrote religious poetry, including the lyric *Burst ye Emerald Gates*.

Kempis, Thomas a (c. 1379-1471), Augustinian canon and religious writer, called after his bp. Kempen, near Dusseldorf. His surname was Ilamurken, and he came of a peasant family. At ten he was sent to a school at Deventer, where the influence was strongly religious, and, having been convicted of sin in a vision, he decided to enter a holy order. In 1399 he was admitted into the Augustinian convent of Mt. St. Agnes at Zwolle, and took the vows in 1406. He lived a peaceful and secluded life in this convent, devoting his time to copying MSS. and to writing his own books. These latter included sermons, some hymns, and a great number of pious tracts. He wrote biographies of Gerhard Groot, the founder of the school at Deventer; Florentius Radewyn, a former master of his; and of Groot's early disciples. His tracts, which deal with the monastic and Christian life, include *The Discipline of Monks*; *The Life of the Good Monk*; *The Solitary Life*; *The Valley of Lilies*; *The Soul's Soliloquy*; *The Garden of Roses*; and *The Faithful Dispenser*. By far the most celebrated of his treatises is the famous *Imitation of Christ*, which has been trans. into more languages than any other book except the Bible. Within ten years of a K.'s death there had been pub. eighty eds. of this book. Two MS. copies, dated 1429, exist, but a more perfect copy is in the Bourgogne Library at Brussels. The earliest Eng. trans., now in Magdalen College, Oxford, is that of Pynson, which is dated 1433. An interesting literary controversy has raged around the authorship of the *Imitation*, the other claimants put forward being Jean Gerson, chancellor of the univ. of Paris, and the abbot of Vercelli, but the learned, as well as the popular, verdict is in favour of the traditional authorship of a K. The *Imitation* breathes out the quiet and peace of the cloister, and with its combination of simple faith and mysticism appeals to all manner of men and women. Apart from the doctrine of transubstantiation which is upheld in the fourth book, its teaching is accepted by Christians of all creeds. The work has, too, great literary beauty, and, as pointed out by Dr. Hirsch, in its original form has most harmonious cadences and a rhythmical flow. The 'rhythmic sentences' are preserved in Canon Iddon's trans. (1889). There are also trans. by H. Goodwin (1860) and C.

Blgg (1898); F. Kern's ed., *Die Nachfolge Christi* (1947), with a critical commentary, seeks to ascribe the authorship to Gerhard Groot.

The *editio princeps* is that of Somma-lus, *Thomas Malleoli à Kempis opera omnia*, 1607; a modern ed. of the complete works has been ed. by M. J. Pohl (1902-1922), and there is a bibliography in C. Wolffgruber's *Giuranni Gersen*, 1880. See M. de Grégoire, *Mémoire sur le véritable auteur de l'Imitation*, 1830; C. Hirscho, *Prolegomena zu der Imitatio* (1873-74, Eng. trans. by Bishop Goodwin, 1886, and C. Bigr, 1898); S. Kettlewell, *Authorship of the De Imitatione*, 1877, and *Thomas à Kempis and the Brothers of the Common Life* (1882, from the Rom. Catholic standpoint), F. R. Cruise, *Outline of the Life of Thomas à Kempis*, 1904; and J. de Montmorency, *Thomas à Kempis: his Age and Book*, 1906; also lives by J. Brewer, 1676; F. R. Guise, 1887; J. C. Montmorency, 1906; J. Williams, 1910; and A. Klockner, 1921.

Kempston, vil. of Bedfordshire, England, 2 m. S.W. of Bedford. The chief industry is the making of pillow lace. It has a large military barracks. Pop. 8200.

Kempten (anc. *Ca..podunum*), tn. of Bavaria, in Swabia, on R. Iller, 48 m. S.E. of Ulm. There are manuf. of cotton, textiles, hosiery, paper, and machinery. The monastery was founded by disciples of St. Gall (c. 773). It was the scene of a fr. victory over the Austrians (1796). Pop. 24,000.

Kempston Park, in the co. of Middlesex, England, near the Thames at Sunbury. It is now used as a racetrack, the prin. event being the Great Jubilee stakes in the spring.

Kemsley, of Farnham Royal, James Gomer Berrv, first Viscount (b. 1843), journalist and newspaper proprietor, b. at Merthyr Tydfil, and educated privately. He is the younger brother of Lord Camrose (q.v.), with whom he was for many years closely associated in many important newspaper enterprises. By 1925 they were the foremost newspaper proprietors in Great Britain, obtaining control of Amalgamated Press in 1926. In 1937 Camrose and K. separated their interests. K. took over his brother's interests in Allied Newspapers Ltd., which in 1913 changed its name to K. Newspapers Ltd. In 1947 this company's twenty-three newspapers, including the London *Sunday Times*, *Daily Graphic*, and *Sunday Graphic*, had a sale of over 9,000,000. K. was created a baronet in 1928, a baron in 1936, and became a viscount in 1945.

Ken, Thomas (1637-1711), celebrated Eng. prelate and one of the fathers of hymnology, b. at Little Berkhamstead, Hertfordshire. Educated at Winchester and Hart Hall, Oxford, graduating in 1664. At the age of twenty-five he took orders and held successively the country livings of Little Easton (Essex), Brightstone (Isle of Wight), and E. Woodhay (Hampshire). In 1674 he visited Rome with young Isaac Walton, his step-sister's son, which resulted in confirming his regard for the

Anglican Church. In 1679 Charles II. made him chaplain to Mary, wife of William of Orange, and in 1685 nominated him bishop of Bath and Wells. The chief public event of his bishopric was his trial and acquittal as one of the 'seven bishops' who, in 1688, refused to read the Declaration of Indulgence. In 1691 he was superseded by Dr. Kidder, dean of Peterborough, for refusing to take the oath of allegiance to William of Orange. Amongst the many beautiful hymns written by K. are *Awake my Soul and with the Sun, and Glory to Thee, my God, this Night*. See lives by W. L. Bowles, 1830; J. Lawicount Anderton, 1834; and S. H. Plumtre, 1888, 1890.

Ken, riv. of Bundelkhand, central India. It is 250 m. long, and flows N.E. to the Jumna.

Kenath, in Bible times a city of Manasseh. It is generally accepted that Kanatha was a later name, and that the two places are identical. Probably identical with Karawat, 16 m. N. of Hozrah.

Kendal, Countess Ehrengarde Melusina von der Schulerburg, Duchess of (1667-1743), in 1692 entered the service of the Electress Sophia. She attracted the attention of the son of the electress, George Louis, and became his mistress. When he came to England as George I. she followed him, and in 1716 was created duchess of Kendal, and granted valuable pensions.

Kendal, mrkt. tn. and parl. bor. in the co. of Westmorland, England, 22 m. N. of Lancaster. Woollens, hosiery, boots and shoes, paper, and agric. implements are manufactured. Pop. 17,700.

Kendall, Henry Clarence (c. 1841-82), Australian poet, known as 'the national poet,' or 'poet of the bush.' While clerk in the colonial secretary's office (New S. Wales) he found time for poetry and journalistic work, at length becoming inspector of forests (1873). A new period began for Australian poetry with Gordon and K. His works include *Songs and Poems* (1862); *Leaves from an Australian Forest* (1869); and *Songs from the Mountains* (1880). See F. C. Kendall's ed. of his *Poems*, 1903, with a memoir.

Kenealy, Edward Vaughan Fyde (1819-1880), Irish barrister and author, called to the Eng. bar in 1847. In 1873 he became leading counsel for Orton, the Tichborne claimant, and his unprofessional and violent conduct throughout the case was censured by the jurv. Founding the *Englishman* (1874), K. still upheld Orton's claim, and after libellous attacks on Cockburn and others was disbarred by Gray's Inn. He wrote *Brallaghan or the Delphicosophists* (1845); *Gothie, a New Pantomime* (1850); *Poems* 1864 (collected 1875-79); *Proceedings of the Tichborne Case* (1875).

Kengavar, see KANGAVAR.

Kenia, Mount, extinct volcano of Brit. E. Africa, situated between 10° and 12° S. of the equator. Called by the Kikuyu, Kilinyaga, and by the Masai, Dooenyo. Egere ('grey' or 'spotted mountain'). It is a huge truncated pyramid, about 30 m. in diameter at the base, supporting a precipitous rocky pinnacle, divided from its

summit by a deep cleft, thus making, in effect, two peaks, 17,200 ft and 17,160 ft. high, and covered with perpetual snow.

Kenilworth, 1 Urb dist and mkt tn. of Warwickshire, England, 5 mi N of Warwick. The castle, now in ruins, dates from the time of Henry I. It sustained sev sieges and was finally taken by Cromwell and destroyed. There are also remains of an Augustinian priory (c 1122). The tanning industry is extensively carried on. Pop 9400. See Sir W Scott *Kenilworth*, 1821, J Beck, *Kenilworth Castle*, 1845, I. H Knowles, *Kenilworth Castle*, 1872. 2 Suburb of Cape Town, S Africa.

works include contributions to *Sabrina* (1850); *Public School Latin Grammar* (1871), ed. of Virgil (1876-81), eds of Aristophanes' *Birds* (1874), *Aeschylus Agamemnon* (1878); Sophocles' *Oedipus Tyrannus* (1882), *Between Whiles*, or *Wayside Amusements of a Working Life* (1877, Gk, Lat, and Eng verse), *My Old Playground Revisited* (1882). See F D How, *Six Great Schoolmasters*, 1901.

Kennedy, James (c 1106-86), bishop of St Andrews and previously bishop of Dunkeld in which capacity he attended the council of Florence. He took a prominent part in the politics of Scotland



KENILWORTH CASTLE

Vaughan & Sons Ltd, Dundee

It has a racecourse. 3. Model vil of Kimberley, Cape Prov., for the workmen of the De Beers Company.

Kenites, tribe of people who inhabited the S of Palestine, frequently mentioned in the Bible. They seem to have been included in the term Midianites.

Kenmare, tn in co. Kerry. Line 14 m S.W. of Kilmaree, visited chiefly for its bathing. Pop 880.

Kennebec, riv. of Maine, U.S.A., rising in Moosehead Lake and flowing S into the Atlantic Ocean. It is about 150 m long, and during its course it drops 1000 ft. It is navigable for 75 m to Augusta.

Kennedy, Benjamin Hall (1804-89), Eng. schoolmaster, noted for his extensive and thorough scholarship, fellow and classical lecturer of St. John's, Cambridge (1828). He was assistant-master at Harrow (1830-36), and headmaster of Shrewsbury (1836-66). In 1867 he became regius prof. of Gk at Cambridge and canon of Ely. K helped to establish Girton and Newnham colleges. His

during the minority of James II., and afterwards acted as regent during the minority of James III. He was the founder of St. Salvator's College (1150).

Kennedy, John Pendleton (1795-1870), Amer. statesman and novelist, b at Baltimore. Member of Congress and sometime secretary of Navy. He was a friend of Thackeray whom he helped in writing *The Virginians*. Among his works are *Horseshoe Robinson* (1835), *Life of William Hurt* (1849), and *Mr. Ambrose's Letters on the Rebellion* (1865).

Kennedy, Margaret (Mrs. David Davies) (b 1896), Eng. novelist, elder daughter of Charles Moore K., barrister. Educated at Cheltenham and Somerville College, Oxford. *The Constant Nymph* (1924), dramatised with Basil Dean (1926), which brought her fame, is a story of the Tyrol—the love story of a girl who dies at sixteen. Other novels include *Red Sky at Morning* (1927), *Escape Me Never* (1933), *Together and Apart* (1936); and *The Midas Touch* (1938). Her works

display excellent insight into feminine psychology.

Kennet, riv. of England, rising in the Wiltshire Downs. It at first pursues a southerly course and then flows E., past Marlborough and Hungerford, to Newbury, eventually joining the Thames at Reading. Its length is 41 m.

Kenneth I., called *MacAlpin* (d. c. 860), Scottish king of the ninth century, son of Alpin of Dalriada (d. c. 833). He drove out the Danes (811) and conquered the Picts (c. 846), becoming Ard-Righ, or ruler of the united monarchy. Scone became the cap. and Dunkeld the eccles. centre of his kingdom. He invaded Northumbria many times.

Kenneth II. (d. c. 995), son of Malcolm I., succeeded to the throne in 971. He warred against the Strathclyde Britons, and subdued the Lothians and Northumbria as far as the Tees. He was slain about 995. See W. F. Skene (ed.), *Chronicle of the Picts and Scots*, 1867, and *Celtic Scotland*, 1876.

Kennett, Basil (1674-1715), Eng. miscellaneous writer, brother of John K. (q.v.). Educated at St. Edmund's Hall, Oxford, scholar, Cong. Christ., Oxford, 1690. Pub. antiquarian and eccles. works, of which the most important are *Rome Antiquæ Notitia*, or *The Antiquities of Rome* (1696), including essays on Rom. learning and education; and a *Brief Exposition of the Apostles' Creed* (1705). Other works include a poem to Queen Anne and *Lives of the Latin Poets*. It has been suggested, on the authority of James Tyrell, that the third vol. of the *Complete History* (see below) was really the work of Basil K.

Kennett, White (1660-1728), Eng. prelate and author, b. at Dover and educated at Westminster School and at St. Edmund's Hall, Oxford. While still an undergraduate he was employed by Anthony Wood. Disliking James II.'s eccles. policy, he joined the Low Church party and openly supported the Revolution. He became prebendary of Salisbury in 1701, and dean of Peterborough in 1707, and was bishop there from 1718 to 1724. A co-founder of the Society for the Propagation of the Gospel. He acquired a reputation as historian, antiquarian, topographer, and philologist. Among his works are *Parochial Antiquities* (1697; new ed. 1818); *A Register and Chronicle, Ecclesiastical and Civil* (1728), dealing with the Restoration in more detail than his less valuable vol. iii. of a *Complete History of England* (1706, from Charles I. to Anne). This latter work has been attributed to his brother Basil. See life by W. Newton, 1730.

Kenney, James (1780-1849), Eng. dramatic writer, b. in Ireland. He first attained popularity by his farce *Raising the Wind* (1803), produced at Covent Garden. He wrote more than forty dramas and operas, including *False Alarms* (1807); *The World* (1808); *Love, Law, and Physic* (1812); *The Sicilian Vespers* (1840), a tragedy; and the most popular, *Sweethearts and Wives*, produced at the Haymarket in 1823, and revived

sev. times. A friend of Rogers and Lamb. See P. W. Claydon, *Rogers and his Contemporaries*, 1889.

Kennicott, Benjamin (1718-83), Eng. divine and eminent Heb. scholar, b. at Totnes and educated at Wadham College, Oxford. His dissertations *On the Truth of Life in Paradise* and *On the Oblations of Cain and Abel* early won for him his B.A. degree and election as fellow of Exeter College, Oxford (c. 1747). He pub. *The State of the Hebrew Text of the Old Testament Considered* in 1753, unfolding his intention of labouring to improve the Heb. text by the collation of Heb. MSS. K. met with opposition from Warburton, Hume, and others, but gained the support of most of the clergy. Aided by many learned Eng. and continental scholars, he produced the *Octavo Testamentum Hebraicum cum Variis Lectionibus* (1763) for which over 600 Heb. MSS. and sixteen MSS. of the Samaritan Pentateuch were consulted. These latter he valued highly, while showing a disregard of the Masoretic tradition. He Ros.-d continued his work in *Varia Lectiones Veteris Testamenti* (1784-85), and John pro. an excellent abridgment (1806). K. was appointed a B. Col. Librarian (1767) and canon of Christ Church, Oxford (1770).

Kennington, dist. of the London bor. of Lambeth, England, 14 m. S.W. of London Bridge. It is represented in the House of Commons by one member. Here is the celebrated K. Oval, the en. ground of the Surrey Cricket Club. Pop. 70,000.

Kenora, the co. tn. of K. and Patricia dists., Ontario, Canada, situated on the Lake of Woods. On the main line of the Canadian Pacific Railway and also on the Tran.-Canada highway, 300 m. W. of Fort William. Being on the beautiful Lake of Woods it is the centre of a very popular, unsoph. summer resort, with good hunting and fishing. The tn. has two cathedrals, sev. churches, two good hospitals, a public library, and primary schools and also two Indian residential schools. All public utilities are owned by the municipality. Industries include flour mills, lumber mill, pulp and paper, boat factory, and aerated waters. There is an important Ontario Gov. fish hatchery, and sev. wholesale fisheries. The vicinity supplies spruce, red and white pine, poplar, gold, silver, copper and mica. The tn. or settlement was discovered over two centuries ago by the famous Fr. explorer, Pierre de la Verendrye, and became known as Rat Portage. Pop. 8,000.

Kenosha, co. seat of K. co., Wisconsin, U.S.A., situated on Lake Michigan. The city is engaged in the manuf. of motor cars, typewriters, brass and leather goods. Pop. 63,500.

Kensal Green, dist. of N.W. London, England, 5½ m. W.N.W. of Charing Cross. Notable for its cemetery opened in 1833.

Kensington, parl. and metropolitan bor. London, 4 m. W.S.W. of St. Paul's. Here are the beautiful K. Gardens, in which is K. Palace, b.n. of Queen Victoria. The dist. also contains sev. learned institutions, including the Victoria and Albert Museum.

the Royal College of Art, and the Royal College of Music. Two members are returned to Parliament. Area 2291 ac. Pop. 115,600. See Leigh Hunt, *The Old Court Suburb*, 1835; Lady Ritchie, *Old Kensington*, 1873; and E. and Barbara Whelpton, *The Intimate Charm of Kensington*, 1948.

Kensington Palace, part of the Royal Household. K. P. was built in 1689-95 as state apartments for William III. by Wren in place of a house built c. 1605. Part of this older house, however, remained until George I. instructed Benson, Wren's successor, to rebuild it. This latter portion includes the remarkable Cupola Room, decorated in 1722-24, by Wm. Kent. The decoration of the room also includes a series of busts of Lat. poets from Charles I.'s collection, and a number of gilt statues of classical deities which belonged to William III. The marble relief over the fireplace is by Ryssbeck. Notable, too, are the finely-panelled queen's staircase; the king's staircase with walls and ceilings painted by Kent; the queen's gallery with elegant gilded mirrors by Grinling Gibbons (q.v.) and the king's gallery with a ceiling by Kent; and the presence chamber which contains what is regarded as Kneller's masterpiece, the full-length portrait of a Chinese convert, a magnificent overmantel carved by Gibbons and another ceiling by Kent. Wren, Gibbons, and Kent are in fact the three artists whose work is most in evidence in the building and decoration. Besides this, K. P. contains an interesting collection of pictures. There is a large gallery of topographical paintings of London; one or two small rooms of Dutch pictures such as William III. is known to have had here; and a collection of the paintings of Benjamin West (q.v.), including the famous 'Death of General Wolfe'. West's historical and classical pictures are probably better represented here than anywhere else. The state apartments were closed from Aug. 1911, when they were seriously damaged by a flying bomb, but reopened to the public on June 1, 1949.

Kensingtons, The, popular name of the thirty-ninth Co. of London (London's Kensington) battalion of the London Regiment.

Kent, Edward Augustus, Duke of (1767-1820), Eng. prince and soldier, fourth son of George III. and father of Queen Victoria (1837-1901). He served under Grey against the Fr. in the W. Indies (1794), became lieutenant-general (1796), duke of L. and Strathearn and earl of Dublin (1799), and commander-in-chief in N. America. Fort Edward in Martinique and Prince Edward Is. were named after him. He was governor of Gibraltar (1802), but a mutiny followed his severe reforms. See life by E. Neale, 1850.

Kent, George Alexander Edmund, Duke of (1902-42), fourth son of George V. of Great Britain, b. at Sandringham. Entered Navy, 1916; midshipman, 1921; lieutenant, 1926. Appointed to H.M.S. *Nelson*, 1927 and to *Durban*, 1928. Retired from navy for health reasons. Toured Canada, S. America, S. Africa,

and Australia. Married Princess Marina, daughter of Prince Nicholas of Greece and Denmark, in 1934, and received title duke of K. Chancellor, univ. of Wales, from 1937. He was killed in an aeroplane crash in Scotland, whilst on a flight to Iceland to inspect Brit. forces. Issue: Prince Edward George, b. 1935, succeeded to the title in 1942; Prince Michael, b. 1912; and Princess Alexandra Helen, b. 1936.

Kent, James (1763-1847), Amer. jurist, graduated at Yale in 1781. He lectured on law at Columbia College (1791-96) 1823-47), became judge of the supreme court of New York (1798), chief justice (1801), and chancellor (1814-23). His great work is *Commentaries on American Law* (1826-30). He also wrote *Dissertations* (1795), and *A Course of English Reading* (1831). See Johnson's *Chancery Reports*, 7 vols., 1816-24, which contain his judgments as chancellor; J. Story, *On the Conflict of Laws*, 1834; J. Duer, *Discourse on the Life, Character, and Public Services of James Kent*, 1838; W. Kent, *Memoirs and Letters of Chancellor Kent*, 1845, and the *National Portrait Gallery of Distinguished Americans*, vol. II.

Kent, William (1681-1748), b. in York-shire. Eng. landscape gardener, palatine, sculptor, and architect. He built Dorsetshire House, Piccadilly, and the Horse Guards and Treasury buildings, London, and Holkham Hall in Norfolk; and laid out Kew Gardens and Kensington Gardens. His imposing designs for new Houses of Parliament were never carried into effect. K.'s work is more notable in interiors than exteriors, and his decoration is usually much superior to his planning. See Margaret Jourdain, *The Work of William Kent*, 1915.

Kent, William Charles Mark (1823-1902), Eng. poet, biographer, and miscellaneous writer. He edited the *Sun* (1841-1870) and the *Weekly Register* (1871-1881). He wrote under the pseudonym Mark Rochester, among his works being *Aletheia* (1830); *Paeon* (1870); *Mythological Dictionary* (1870); *Corona Catholica* (1880); *Seven Modern Wonders of the World* (1890). K. also issued critiques, edns., or memoirs of Burns (1874), Latham (1875, 1893), Father Prout (1881), Lytton (1875, 1881, 1898) Dickens (1872, 1881) and others.

Kent, maritime co. in the S.E., often referred to as 'the garden of England'. It includes the is. of Thanet and Sheppey, and sends twelve representatives to Parliament from the co., and six from the bors. K. is mostly in the diocese of Canterbury, whose archbishop is the Primate of All England. Maidstone is the cap., and other important tns. are Chatham, Hythe, Rochester, Gravesend, Dover, Deal, Folkestone, Ramsgate, Margate. Woolwich and Sheppey contain arsenals and dockyards. Tunbridge Wells is a noted health resort, while Greenwich is famous for its Royal Observatory (1675), and other gov. buildings. Four of the Cinque Ports—Dover, Romney, Sandwich, and Hythe—belong to K. Faversham is the centre of the fruit trade,

Kentucky River, U.S.A., formed by three streams, rising in the Cumberland Mts., and entering the Ohio, after a north-westerly course of about 250 m. Steamboats ascend it to Frankfort. Part of its course is through a deep chasm in the limestone.

Kentville, tn. of Nova Scotia, Canada, in King's co., 55 m. N.W. by N. of Halifax. Pop. 3,900.

Ken Wood. Between Hanipstead and Highgate, London, formerly the estate of the earl of Mansfield, 74 ac. of land, the house, its furniture and a fine collection of eighteenth-century pictures were bequeathed to the nation in 1918 by Lord Iveagh, together with an endowment fund of £50,000. The collection includes works by Reynolds, Romney, and Gainsborough.

Kenwyn, par. of S.W. Cornwall, England, 1 m. N.W. of Truro. Tin is mined, and there are smelting works. Pop. 800.

Kenya Colony and Protectorate, formerly known as the E. African Protectorate (*see* BRITISH EAST AFRICA). (Prior to being taken over by the Crown in 1895 Brit. E. Africa was known as Iken, the initials of the Imperial Brit. E. Africa Company.) It includes the coast line from the Umba R. to Dick's Head, together with vast tracts in the interior bounded in part by international convention lines. Like Uganda, K. was practically unknown up to the beginning of the present century; Uganda, however, had been visited and described by Stanley, Burton, and Speke, but the ter. which is to-day the colony of K. was shut off from easy communication with the coast by a waterless desert, and the greater part was overrun by the warlike tribesmen, the Masai. K. is bounded on the N. by Abyssinia; on the E. by Jubaland (as to the agreement with Italy *see* BRITISH EAST AFRICA); on the W. by Uganda; on the S. by Tanganyika. It includes the Witu Protectorate, a small tract at the mouth of the Tana R., the administration of which was taken over from the Imperial Brit. E. Africa Company in 1895; and administratively, it is now part of Tangaland. The K. Protectorate consists of the mainland dominions of the sultan of Zanzibar, extending 10 m. inland along the coast from Tanganyika to Kipini. For these tracts K. has hitherto paid the sultan a rent of £10,000 a year. By the K. Annexation Order in Council, 1920, the tracts outside the mainland dominions of the sultan of Zanzibar were recognised as a colony, but are now styled the 'Protectorate of K.'; whilst the remaining ter. is known as the colony of K. Area of protectorate and colony, 221,000 sq. m. A scheme of administration providing for the separate control of the native and settled areas came into operation in 1921.

Divisions and Physical Features.—The prov. divs. of K. C. and P. are Nyanza Prov., comprising the dists. of N., S., and Central Kavirondo, Nandi, Kericho, Kisumu and Lumbwa; Kerio Prov., comprising the dists. of Ravine, Baringo, Turkana, W. Suk, and Elgeyo; Kikuyu Prov., comprising the dists. of

Kiambu Fort Hall, N. and S. Nyeri, Embu and Meru; Ukamba Prov., comprising the dists. of Mwachkos, Kitui, Taita, and Nairobi; the Coast Prov., comprising the dists. of Malindi, Tana R. and Lamu; N. Frontier Prov.; and the Extra-Prov. Dist. of Laikipia, Naivasha, Trans-Nzola, Nakuru and Uasin-Gishu. The dists. most suitable for settlement by Europeans are Kiambu, Laikipia, Kericho, Nakuru, Naivasha, N. Nyeri, Uasin-Gishu, and Trans-Nzola. The country is watered by the Upper Nile, Bahr-el-Ghazal, and Tana rvs., and forms a high plateau. The Tana R. offers possibilities for irrigation and examination has shown that a canal on the Upper Tana would be technically feasible, though it would involve a capital outlay of £2,000,000. Much of the vast region consists of pasture lands on which very large herds are grazed, or of barren wastes. There are also, however, dists. of great actual and potential fertility both in the interior and on the coast. The coastal regions have a tropical climate with cool nights, except during the hottest months (Dec. to April). The climate in the highlands is invigorating, with cool breezes. The mean maximum shade temp. at Nairobi is about 80° and the mean minimum 51°. The rainfall is under 20 in. in the N. Desert area; from 40 to 80 in. on the coast and in the Nyanza and Kikuyu Provs.; and from 20 to 40 in. in the remainder of the country. Big game is abundant, the colony being a veritable 'hunter's paradise.' The largest pair of elephant's tusks on record were taken from K., and more lions have been shot annually for the past twenty years in K. than anywhere else and yet are as numerous in certain outlying parts as ever. The record buffalo also was shot in the colony, and herds are so large that no fewer than six bulls are permitted under the Game laws. Other game are hippopotamus, eland, oryx, wildebeeste, and giraffe. Leopard, hyena, wild dog, and jackal, all common, are regarded as vermin. Ant-bear, arndwolf, manthog, and various cats such as lynx and carcel, are plentiful. The bird life is remarkably varied and prolific, including numerous kinds of duck and geese, snipe, bustard, quail, guinea fowl, francolin, sand grouse, pigeon, whistling teal, diving duck, garganey, pintail, and pochard; and, in addition to game-birds, there are ostrich, crane, heron secretary bird, hornbill, widdah (whidah), the sunbird of gorgeous plumage, bee-eater, hawk, and starling. The best shooting grounds are either in the N., in the direction of Abyssinia, on lakes Baringo, Hamington and Rudolph, and on the Rts. Tana and N. Uaso Nyiro; or S., towards Tanganyika. There is plentiful fishing, either for deep-sea fish like tarpon, Nile perch in the lakes, or brown trout in the mt. streams. Entomologists, too, have ample scope for their activities, the insect life including butterflies of astonishing size colour and shape, chameleon flies, and mantis, beetles and other remarkable mimetic insects. Nairobi is the best starting point for the sportsman, and all

kinds of outfit, provisions, etc., can be bought there, including any kind of firearm. It is intended by the K. Gov. to establish a national park covering 7000 sq. m. This, the Isavo National Park, will be one of the greatest game sanctuaries in the world, only second in size to Kruger Park S. Africa. It will contain thousands of elephants, lions, buffaloes, and rhinoceroses. Mun. railways and a road from Mombasa to Nairobi run through it.

White Settlement—K. is essentially the land of the 'younger sons' and owes much of its development to the activities of these white settlers of the highlands districts. It has been described as an unhappy country, a state of things due largely to the conflict between the Gov., both local and imperial, on the one hand, and the white settlers on the other. The Gov. is committed in principle at least to the doctrine of the 'primacy of the native' and this has necessarily meant some restriction of the enterprise of the white community. Thus when gold was discovered in the K. & M. region within recent years, mining was denied to European settlers, and the result was the sending out of a commission to inquire into the addition of what in consequence have to be made to the native reserves. The Kenya White Paper 1922 in its declaration of the 'primacy of African interests' was a genuine attempt to indicate a liberal policy, but subsequent efforts to elucidate its meaning have led to acrimonious controversies, not only in K. but in political circles in London for the test of Brit. intentions in K. lay in the handling of the land question and the apportionment of expenditure between objects affecting Europeans and Africans. The white community exerts an influence out of proportion to its numbers. The actual number of its land occupiers is approximately 1800 to 1900 of the total European pop. of 19,000 and its concern is primarily to safeguard European ownership in the highlands area, in which its capital is invested, and to maintain an economy that will serve the standards of life of the class which it represents. The encouragement of European settlement in K. was largely due to the desire to establish in the vicinity of the railway line a pop. that would provide sufficient railway traffic to repay the heavy outlay in its construction. By the end of 1931 some 6,768,000 ac. had been allocated to Europeans for development (but, since 1912, no freeholds). No details are available regarding actual development, but probably not more than 600,000 ac., or about 11 per cent. of the whole have been developed. Alienation of land in the highlands is restricted to Europeans by administrative action and by the Crown Lands Ordinance, 1915, which requires Gov. approval for transfers of land between members of different races. There are some 3,000,000 Africans in K., and in the Kikuyu reserve the density is 281 per sq. m., and in the Kavirondo, 145, whereas areas unaffected by reserve policy, such as the N. frontier prov., have an average density of less than 1 per sq. m. As the

result of the findings of the commission on closer union in Africa, 1929, the J. Africa Commission of 1924, and the Morris Carter Commission, 1934, the native has some degree of security from the declaration that the reserves are 'set aside for the benefit of the native tribes for ever,' and the fact that they are placed under the Native Lands Trust Board. The Morris Carter Commission was appointed as the result of the Closer Union Commission's recommendation that an authoritative inquiry should be made not only into the adequacy of the security offered by the Lands Trust Ordinance of 1930, but also into the natives' present and prospective needs in the matter of land. In spite of these various safeguards, the land



MASAI WOMAN OF KENYA

problem remains, and it is aggravated by the fact that the uncertain agricultural methods of the natives—though much has been done by the Agric. Dept. to teach better methods, coupled with the depasturing of very large herds of cattle, have resulted in serious soil erosion (see Elspeth Huxley, *Tord Dlamine and the Making of Kenya* 1931; and Loti Huxley, *An African Survey*, 1935).

Values—The pre-liminary native tribes are the Kikuyu and Masai. The Kikuyu have no centralised political organisation. The chiefs of the clans exercise some authority over the members of their own group, but recognise no common allegiance to a single chief. Initiation ceremonies take place for admission to adult membership of the tribe. The Masai are a nomadic Il-mutite tribe. They are warlike and of somewhat striking appearance. It was their predatory raids on cattle which kept much of the highlands free from occupation by sedentary tribes. When European occupation first presented itself the Masai no longer constituted the same danger, while great cattle

epidemics in 1883 and 1889 and internal feuds in 1890 reduced them to a condition which seemed to remove the obstacles to colonisation which their neighbourhood had once threatened. The Nandi and Suk tribes, also Hamitic, now live in settled villages and practise agriculture. The Akamba are also a large cattle-owning Niantu tribe. The practice of magic for both beneficial and harmful purposes is common to African tribes. It is generally believed that the ritual treatment of certain substances by persons possessed of special powers can affect human beings, animals, or crops in a manner which is recognised to be outside the ordinary course of nature; thus made to produce courage in war may include portions of a lion among its ingredients, and in many tribes the fertility of the soil is held to be directly influenced by the sexual life of the chief. Only harmful magic can approximately be called sorcery, and this is universally regarded by Africans themselves as a heinous crime. The witch doctors derive their power from the belief that by divination and other means they are able to indicate sorcerers and protect the tribe and individuals against the practice of harmful magic. See A. C. Hollis, *The Masai: their Language and Folklore*, 1905, and *The Nandi: their Language and Folklore*, 1909; C. W. Hobley, *Ethnology of the Kikuyu, and other East African Tribes*, 1910, and *East African Tribes and Magic*, 1922 (refers also to the Kikuyu); W. M. H. Beech, *The Suk*, 1911; G. Lindblom, *The Akamba in British East Africa*, 1920; G. St. J. Orde Browne, *The Vanishing Tribes of Kenya*, 1925 (deals with the minor tribes of the Kikuyu district); and J. A. Massam, *The Cliff Dwellers of Kenya*, 1927 (refers to the Elgeyo tribe).

Agriculture and Other Products.—The agricultural products are the most important; those of the lowlands are coconuts, cotton, maize, sisal, sugar cane, and various native grains; wheat, barley, vegetables, and fruit are also grown. The forests produce ebony, scrub-mahogany, and pencil cedar. Sisal is extensively planted. There are extensive pastures, and they cause a good deal of soil erosion. The mineral wealth is not yet fully ascertained, but abundant iron ore is known to exist; and among other minerals are mica (Suk district), graphite, limestone, pearls (Rift valley), carbonate of soda (Ukamba), gypsum, and gold (S. of Kisumu). Mining until recently, made little advance, and is even to-day, despite the development of the Kakamega reef and alluvial deposits, of small importance as compared even with Tanganyika. In 1946, for example, the export of gold was only equal to about 7 per cent of current exports of local produce. Coffee is by far the most important product, accounting for 25 per cent of exports, while sisal ranks next, with 18 per cent. The exports (of both K. and Uganda), before the Second World War, were maize (£199,600); coffee (£1,153,000); sugar (£187,400); tea (£474,600); tin ore (£276,000); sisal fibre and tow (£692,000); sesame seed (£28,600); hides and skins (£417,500); wattle bark and extract

(£121,000); ivory (£39,000); wool (£53,600) gold bullion (£540,700); cotton seed (£300,000). Other exports include wheat, tanning bark, and sodium carbonate. Imports consist mainly of cotton goods, rice, salt, tobacco, textiles, and motor cars and accessories.

Trade and revenue.—Under the Congo Basin treaties equality of treatment in respect of imported goods irrespective of origin is ensured, and the grant of imperial preference is therefore inadmissible. For purposes of customs K. and Uganda form a single unit, and by agreement with the Tanganyika Gov. a common tariff has been accepted by the three dependencies, thereby securing free movement within these territories of both imported goods and local products. For K. and Uganda the value of trade imports and exports and net customs receipts and tonnage entered at K. ports for the years 1939-46 were:

	Trade Imports	Trade Exports
	£	£
1939	7,661,020	10,750,666
1942	12,995,961	11,035,410
1944	13,916,486	16,086,335
1945	13,029,714	15,731,730
1946	20,326,171	16,751,820

	Customs Receipts	Tonnage entered
	£	£
1939	1,310,580	2,116,510
1942	1,397,611	2,891,593
1944	2,288,174	2,359,407
1945	2,241,159	3,772,027
1946	3,090,005	4,778,589

In 1946 the main imports into K. and Uganda were grain and flour, beer, wines and spirits, cigarettes and tobacco, coal, cement, iron sheets, tools and implements, electrical goods, machinery, cotton piece goods and manuf., woolen yarns and manuf., silk and artificial silk tissues and manuf., jute bales and sacks, haberdashery and wearing apparel, drugs and chemicals, dyes, paints, lubricating oils and greases, motor spirit, mineral oil, stationery, motor cars and accessories, lorries, tyres and tubes. The United Kingdom sent 38.5 per cent of these imports, India 15.7 per cent, S. Africa 9.7 per cent, other Brit. commonwealth countries 11.2 per cent; U.S.A. 12.3 per cent; other foreign countries 7.1 per cent. The chief domestic exports of K. and Uganda in 1946 were coffee, sugar, tea, cigarettes, tin ore (Uganda), cotton and seed (mainly Uganda), sisal, fibre and tow, hides and skins, wattle bark, ivory, pyrethrum, wool, and gold bullion.

Revenue and expenditure for 1939, 1942, and 1944-46 were as follows:

Year	Revenue	Expenditure
	£	£
1939	3,811,778	3,808,070
1942	5,595,025	5,341,551
1944	7,734,333	7,829,088
1945	8,034,190	7,815,929
1946	8,057,390	8,795,237

Public debt is £17,580,600.

Administration — The administration is in the hands of a governor assisted by an Executive Council and a Legislative Council. Under the existing constitution adopted in March, 1944 the Executive Council consists of twelve members, in addition to the governor while the Legislative Council consists of eleven elected European members, five elected Indian members, one elected Arab member, two nominated unofficial members to represent the interests of the African community, one nominated unofficial member to represent Arab interests, eleven ex-officio official members, and nominated official members of a ceiling number of 11, with the governor as president. Ex-officio members include the ex-officio members of

development after the war. In place of the canalisation of work along traditional lines to the chief secretary, decentralisation began by the institution of a system of organising departments in groups under members of the Executive Council. By gov. notice of Aug. 1, 1945 an authority for development and reconstruction was established with the chief secretary as chairman and the general manager of the K. and U. g. railways as a member to oversee the execution of work and projects of construction and development in accordance with officially approved plans under the Colonial Development and Welfare Acts. A part of this department of activities, a member for health and local gov. was appointed to fill the place of the



SCENE ON THE RAILWAY KENYA PROVINCE

the Executive Council, with the general manager of the K. and U. g. railways and harbour, the director of public works and the commissioner of customs. The constituencies for Europeans, Indians and Arabs are separated from one another (i.e. communal franchise). The franchise for Indian members is adult suffrage (over twenty-one) and for Arab adult suffrage (over twenty-one) subject to ability to write in Arabic characters. It may be said that in the railway between S. Africa and the countries with a developed system of indirect rule (such as Nigeria) regard to the use made of native authorities in administration. But K. unlike the latter, does not seek support for its administrative measures in the use of traditional institutions. It purports to stimulate progressive changes in the condition of native life by encouraging any indigenous system of local self government that may exist.

Early in 1945 plans for the reorganisation of the gov. were made in order to cope with the problems of reconstruction and

medical and local gov. departments and to represent those departments on the Executive and Legislative Councils. The labour department was reorganised in 1946, and is responsible for the inspection of the conditions of labour and the administration of the labour laws of the colony. Another change is that the attorney general has become the minister of law and order and is responsible for all that that title implies.

Communication — The railway system is well developed on the K. and U. g. railways and harbours are state-owned. In 1946 the Imperial gov. began the construction of a railway to Uganda and it was with the completion to Lake Victoria in 1952 of what was formerly called the Uganda Railway that the highland area of K. became known and the development of the great natural resources of both K. and Uganda began. Previously communication was by porter caravan, and the journey to Uganda took many weeks. From the original trunk line of the Uganda Railway which ran from Mombasa to Lake Victoria, the railway system of the K. and

Uganda railways and harbours administration has grown in all directions, and now gives access to most of the settled areas of the highlands of K., and has been pushed through the cotton-growing areas of Uganda. The main line from Mombasa Is. to Juba (Lake Victoria) via the Great Rift Valley, the Mau Escarpment, the Mashin-Gishu Plateau, and N. Kavirondo, with branch to Lake Kioga, is nearly 900 m. in length; other lines are those connecting Nakuru and Kisumu (131 m.), the Voi-Kahe branch, 92 m., between Kahe junction and Moshi; the Magadi (soda deposits) branch, 91 m.; the Thika-Nyeri-Nanyuki line, 115 m.; the Solai branch, 48 m.; and the Kisumu-Butebo branch, 45 m. The steamer services on Lake Victoria, Kioga, and Albert give through transport to Tanganyika, the Congo, and the Sudan. Mombasa is the chief port, having two fine harbours, one at Mombasa itself and the other at Kilindini, which latter is the finest landlocked and sheltered harbour on the E. coast of Africa.

Pop. (estimated Jan. 31, 1947): Europeans, 23,284; Indians, 78,588; Gnomus, 5,993, Arabs, 21,020; other non-natives, 2,575. Total non-natives, 130,460; Africans, 4,055,000. Grand total, 4,185,460.

Arabs and Swahilis predominate on the coast; inland are races speaking Bantu, and also non-Bantu-speaking tribes such as Nilotic, Kavirondo, Nandi, Lumbwa, Suk, Masai, Turkana, and Galla. (On the question of closer union see *BRITISH EAST AFRICA—A Matter of Policy and Closer Union*.)

K. recruited 5000 Europeans and 2200 Indians for the Second World War. K., like Tanganyika, had also a naval volunteer force and K. ships, including schooners and dhows, were engaged in coastal defence, especially at the port of Mombasa, and took part in the advance against It. Somaliland. K. also organised a scheme for training pilots for the R.A.F. Some 300 African artisans completed their training every three months at the Native Artificers' Training Depot at Kabeti and were enrolled in the E. Africa Service Corps (see also *KING'S AFRICAN RIFLES*.)

See N. Leys, *Kenya*, 1924, and *A Last Chance in Kenya*, 1931; W. MacGregor Ross, *Kenya from Within*, 1927; C. W. Hobley, *Kenya: From Chartered Company to Crown Colony*, 1929; H. O. Weller, *Kenya without Prejudice*, 1931; L. S. B. Leakey, *Kenya Contrasts and Problems*, 1936; K. Gandhi Dower, *The Spotted Lion*, 1937; Sir P. J. Jackson, *The Birds of Kenya Colony and the Uganda Protectorate*, 1938; Lord Cromworth, *Kenya Chronicles*, 1939; also the Report of the Morris-Carter Commission (Kenya Land Commission), Cmd. 4556, together with Evidence and Memoranda, 3 pls., 1934; Elsie Huxley, *Race and Politics in Kenya*, 1944, and *The Sorcerer's Apprentice*, 1948; and E. M. Wiseman, *Kenya—Then and Now*, 1948.

Kenyon, Sir Frederic George (b. 1863). Director and prin. librarian of Brit. Museum; noted antiquarian, and skilled

in study of papyri and numismatics. Was elected president of the Brit. Academy, 1917, and in 1918 prof. of anc. hist. at the Royal Academy. Among his numerous publs. are *Classical Texts from Papyri in the British Museum* (1841); *Facsimiles of Biblical MSS. in the British Museum* (1900); *Handbook to the Textual Criticism of the New Testament* (1901, new ed. 1912); *The Buildings of the British Museum* (1914); *Ancient Books and Modern Discoveries* (1928); *Libraries and Museums* (1936); *The Bible and Archaeology* (1940); *The Chester Beatty Biblical Papyri* (8 parts, 1933-41); and *The Reading of the Bible* (1944).

Kenyon, Lloyd, Lord (1732-1802), Brit. lawyer, lord chief justice of England (1788-1802). He won fame by his defence of Lord George Gordon, on trial for treason over the outbreak opposing toleration of Rom. Catholics (1779). K. became attorney-general in 1782, and received the title Lord K., Baron Greddington (1788). See Lord J. C. Campbell, *Lives of the Chief Justices*, 1819-57, and *Lives of the Lord Chancellors*, 1845-69; also life by G. T. Kenyon, 1973.

Kenyon, tn. of Ontario, Canada, in Glengarry co., 55 m. S.W. of Montreal. Pop. 5100.

Keokuk, city of Lee co., Iowa, U.S.A., on the junction of the Des Moines and Mississippi, about 20 m. above St. Louis. Has an elevation of 180 ft. It is the site of a dam and hydro-electric plant constructed in 1913, to harness the Des Moines rapids. Manufact. motor cars, furniture, electrical supplies, tobacco, soap, etc. Pop. 15,000.

Keonjhar, see KLEUNJAR.

Keonthal, see KEUNTHAL.

Kephallenia, see CEPHALONIA.

Keppler, or Keppeler, Johannes (1571-1630), Ger. astronomer, b. at Weil der Stadt. His parents, though of noble descent, were in reduced circumstances, and while K. was a child his father became innkeeper at Elmendingen. In 1586 K. was admitted into the monastic school at Maulbronn, where the cost of his education was defrayed by the duke of Württemberg, and from there he passed to Tübingen Univ. He had originally intended to prepare for the ministry of the Evangelical Lutheran Church, but c. 1591 he accepted the astronomical lectureship in the Univ. of Graz (now Graz). His own modest assurances that at that period he had given no particular attention to astronomy are misleading; in his mathematical studies he had been well grounded in the subject, had learned Copernican principles from Moestlin, his famous tutor at Tübingen, and had been praised by Moestlin for his essay on primary motion. In 1598 his *Prodromus dissertationum cosmographiarum seu mysterium cosmographicum* was pub. and won him the friendship of Tycho Brahe and Galileo. He married in 1597, and in 1600 he became assistant to Tycho Brahe (q.v.). On the latter's death in the following year he succeeded him as prin. imperial mathematician to Rudolph II., and was given the task of completing the *Rudolphine Tables* (1622),

left unfinished by Brahe. He was now able to devote much of his time to astronomical research. Rudolph had a far greater interest in astrology than in astronomy, and K., like Brahe, was of great value to him and to his successor, Matthias, because of his knowledge of the casting of nativities. K. himself attested his faith in the subject, and one of his pubs, which brought him fame during his lifetime was an astrological one, *De fundamentis astrologiae* (1602). After Rudolph's death K. remained in favour and continued his astronomical research. His wife *d.* in 1611, and he remarried in 1614. In 1619 he pub. *De harmonia mundi*, dedicated to James I. of England, on which Newton later began his studies for the *Principia*. James invited him to England, but, though in constant poverty at a court which rarely paid him his salary, K. refused the invitation. About 1629 he became astrologer to Wallenstein. At his death he had pub. thirty-three works; he left twenty-two vols. in MS. and a voluminous correspondence. K.'s prin. claim to immortality lies in his discovery of the three celebrated laws of planetary motion which bear his name. These laws, though not proved in Newton's *Principia* appeared, revolutionised astronomical calculations, and entitle K. to rank as one of the four great men who laid the foundations of modern astronomy. For an account of K.'s laws see ASTRONOMY and GRAVITATION. There are eds. of his collected works by G. Frisch (1858-72) and W. von Dyk and M. Caspar (1937 ff.). See also lives by Sir D. Brewster, 1811; C. G. Reuschle, 1871; H. W. Bryant, 1921; and a study by K. Zinner, 1931; H. Macpherson, *Makers of Astronomy*, 1933; M. Caspar, *Johann Keplers wissenschaftliche und philosophische Stellung*, 1935, and *Bibliographica Kepleriana*, 1936; and K. Hildebrandt, *Kopernikus und Kepler*, 1944.

Keppel, Augustus Viscount (1725-86), Eng. admiral, son of the second earl of Albemarle. After having entered the navy he was successful in many expeditions, among them the capture of Havana in 1762. In 1778, owing to Sir Hugh Palliser, who was in command with K., the Fr. fleet were allowed to escape off Ushant. At the court martial, however, K. was acquitted. In 1782 he was made First Lord of the Admiralty, and created a viscount, see life by T. Keppel, 1812.

Keppel, Sir Henry (1809-1901), Eng. admiral and writer, son of the fourth earl of Albemarle. After service in other places he was instrumental in putting down piracy off the shores of China and in the Pacific about the middle of the nineteenth century. He was in command of the naval brigade at Sebastopol, and in 1857 was successful against the Chinese in Fatsan Bay. In 1869 he was made a full admiral; G.C.B. in 1871, and in 1877 admiral of the fleet. His writings include *Vint to the Indian Archipelago* (1833); *A Sailor's Life under Four Sovereigns* (1899). See Sir A. West, *Memoir of Keppel*, 1905.

Ker, Family of, surname of two noble families of Anglo-Norman extraction,

said to have been living in Scotland at the end of the twelfth century. They settled in Roxburghshire, and derived their descent from the families of Fernihirst and Cessford. In 1357 John K. of Altonburn gave origin in his three sons to the families of Linton, Cessford, and Gate-hay, and in a grandson to that of Fernihirst—the marquess of Lothian being the present chief male representative of this family. Sir Walter K., son of Sir Andrew K. of Cessford, was created earl of Roxburgh in 1616. The grandson of the second earl of Roxburgh, viz. the fifth earl, was created duke in 1707, and the present duke of Roxburgh is the chief male representative of the family of Cessford.

Ker, William Paton (1855-1923), Scottish scholar and literary critic, *b.* in Glasgow. Educated at Glasgow and Oxford Univs. From 1883 to 1887 he was prof. of Eng. literature and hist. at Cardiff Univ. College, and from 1889 to 1922 occupied the queen's chair of Eng. literature at Univ. College, London. In 1920 he was elected to the vacant chair of poetry at Oxford. An unconventional type of prof., a critic of remarkable vitality, and a man of vast learning. His writings include *Epic and Romance* (1897, 1908); *The Dark Ages* (1901); *Essays on Medieval Literature* (1905); *Storia della Letteratura* (1907); *The Art of Poetry* (1923); and *Form and Style in Poetry*, (1928, a collection of lectures and notes ed. by R. W. Chambers).

Kerason, Kerasund, or Kerasunt, seaport of Asiatic Turkey, 70 m. W. of Trebizond on the Black Sea, exporting timber and hides. Here the wild cherry (*L. cerasus*) grows in profusion and it was from K., then called Cerasus, that it was taken into Italy by Lucullus. Pop. 12,000.

Kerbela, sacred tn. of Iraq, about 60 m. S.W. of Baghdad, connected with the Euphrates by a canal. Here is the tomb of Hussein, son of Ali, and the goal of numbers of pilgrims. The people are engaged in making sacred bricks, and the chief exports are cereals and dates. Pop. (1911) 140,000. (tn.) 72,000.

Kereh, or Kerch (anc. Panticapæum), fortified seaport of the Crimea situated in the Crimean Region of the R.S.F.S.R., 60 m. E.N.E. of Feodosia, on the K. or Yenikale Strait, connecting the sea of Azov with the Black Sea. The tn. is of interest from an archaeological point of view. The products include leather, tobacco, cement, lime, beer, and soap; there are saw and flour mills and in 1895 a rich vein of iron ore was discovered. During the Crimean war (1855) K. was levelled to the ground by the allies. Under Soviet rule the harbour has been greatly improved. Captured by the Gers. in the campaign of the latter part of 1941, and recaptured by Soviet troops a few weeks later. Pop. 110,000.

Keren, plateau and tn. in Eritrea, E. Africa, of strategic value since it covers Asmara, and the railway from Sudan to the coast. In the Second World War, it, positions therein were captured after heavy fighting between March 21 and 27, 1941.

Keren Hayesod, central financial institution for the activities of the Zionist organisation in Palestine; incorporated in 1921. It was founded on the principle of a fixed and ann. self-imposed tax on every Jew for the upbuilding of the National Home for Jews in Palestine. (See BALFOUR DECLARATION; PALESTINE.) Its primary objects are to do everything necessary or expedient for the purpose of carrying out the Balfour Declaration (an object which has now been more than achieved), and to obtain subscriptions, loans, gifts, legacies, etc., for the furthering of the objects or powers of the institution. See A. Giltzer, *Two Decades of Keren Hayesod* (Jerusalem), 1940.

Kerensky, Alexander Feodorovich (b. 1881), sometime premier of revolutionary Russia; b. at Simbirsk, son of a high-school headmaster, descendant of a family of orthodox priests. Educated at Simbirsk, Tashkent, and Petersburg Univ., where he graduated in law. Practised at Saratov. He achieved popularity by eloquent defence of the politically accused. Elected to fourth Duma, 1912. On the overthrow of tsardom, March 1917, he became minister of justice under the new Premier, Prince Georg Lvov, and on May 5 war minister. On July 20 Lvov gave place to K., who formed a Coalition Gov. Aug. 7. Chief of Provisional Gov. of Five, Sept.-Nov., 1917. His policy involved continuation of the war; but Kornilov, whom he appointed commander-in-chief exceeded instructions and brought to a head the war-weariness of the army. The Bolsheviks or majority socialists seized the cap., Nov. 7. K. fled and raised a small army, which the Bolshevik Army defeated outside Petrograd. He escaped to Paris. Leader of Russian Socialist Revolutionary party and manager of Russian paper, *Dni*, in Paris. Since 1940 he has lived in U.S.A. Publ. *The Crucifixion of Liberty* (1935), and *The Road to Tragedy* (1935).

Kerguelen Land, or Desolation Island, is. in the Indian Ocean; Cape Chaleenger, its S. extremity, is in 49° 46' S. lat., and 70° 5' E. long. It is very irregular in shape, and has a long coast-line; its length is 85 mi. The is. is volcanic in character, mountainous, and with many glaciers. Fur, seals, sea leopards, and sea elephants, together with skuas, gulls, albatrosses, terns, cormorants, Cape pigeons, and a variety of insects are found. A characteristic feature of the vegetation is the Kerguelen cabbage (*Pringlea anti-corbatica*), a member of the order Cereifera and a preventive of scurvy. The is. was discovered by Yves Joseph de Kerguelen-Trémarec (1741-97) in 1772, and annexed by France in 1893. It is uninhabited. Area 1480 sq. mi.

Keriyu, or Kiria, tn. in Sinkiang, China, situated 95 m. E. by S. of Khotan, and standing at a height of 4500 ft. Jade is found. Pop. 13,000.

Kerkrade, com. of Holland, in the prov. of Limburg, 13 m. N.E. of Maastricht, near the Ger. border, with coal mines. Pop. 40,300.

Kerkuk, see KIRKUK.

Kermadec Islands, group of uninhabited volcanic is. of the Pacific Ocean, lat. 30° S., and long. 178° 30' W., one of the chief being Sunday or Raoul Is. (20 m. in circuit). They belong to New Zealand. Area 15 sq. mi.

Kerman, or Kirman: 1. Prov. in the S.E. of Persia, joining Baluchistan, and having an area of about 60,000 sq. m. Most of the surface is extremely barren, the N. and N.E. being occupied by the desert of K. The inhab. are chiefly engaged in carpet-making. Pop. about 800,000. 2. Cap. of the prov. of the same name, stands at an elevation of over 5000 ft. A centre of the Persian carpet industry. Exports include carpets, silk, and dates. It has a gov. wireless station. Pop. 50,100.

Kermanshah, or Kirmanshahah, cap. of the prov. of the same name, Persia, 275 m. W.S.W. of Teheran, and standing at the junction of the caravan routes from Bagdad, Teheran, and Ispahan. It is a military area, and has a gov. wireless station. There is a large oil-refinery. It has a trade in grain, wines, opium, and carpets. Pop. 89,000.

Kermos, see CHIRMES.

Kern, Jerome David (1885-1940), Amer. composer, b. at New York. He studied under Paolo Gallico and Alexander Lambert, and turned to the composition of musical comedy and other light music. His works include *Sunny* (1920); *Show Boat* (1927); *Muscle in the Air* (1933); and others. He also wrote music for the films.

Kernahan, Coulson (1858-1943), Eng. author, b. at Ilfracombe, and educated privately by his father, Dr. J. Kernahan, F.R.S., and at St. Albans. He collaborated with P. Locker-Lampson in editing the anti-cloy *Lupa Elegantiarum*, and was until 1900 literary adviser to Ward, Lock & Company. His works include *A Dead Man's Diary* (1890); *God and the Ark* (1891); *Captain Shannon* (1901); *Secondhand and Company* (1901); *In Good Company* (1917); *Spiritualism* (1919); *Black Opus* (1920); *The Leading Girl* (1925); *For More Famous Poets* (1928); *A Dog and his Master* (1932); and *Chatter about Dogs* (1936).

Kerner, Justinus Andreas Christian (1786-1862), Ger. poet and medical writer, b. at Ludwigsburg in Württemberg, and educated at the classical schools of Ludwigsburg and Altdorff and the Univ. of Tübingen. He took his doctor's degree in 1808, and practised in Wildbad. In 1815 he was made medical officer of Gaildorf, and in 1818 of Weinsberg, where he spent the rest of his life. His works include *Die Reiseschätze von dem Schattenspieler Luchs* (1811); *Deutscher Dichterwald* (1813); *Die Scherlin von Trerort* (1820); *Der letzte Blütenstrauss* (1852); *Winterblüten* (1859). See F. Heinemann, *Justinus Kerner als Romantiker*, 1908; H. Straumann, *Justinus Kerner und der Okkultismus*, 1928.

Kerosene (Gk. κηρός, wax), colourless mixture of liquid hydrocarbons distilled (between 150° and 300° very approximately) from petroleum, and used for

lighting and fuel purposes. The specific gravity varies from .780 to .825, the boiling point is about 140°-285° C., the flash point varying accordingly. In England it is known simply as paraffin or paraffin oil. It is a colourless liquid, with a characteristic smell and a blue fluorescence. Chemically it usually consists of a mixture of the saturated aliphatic hydrocarbons from decane to hexacontane.

Kéroualle, Louise Renée de, see PORTSMOUTH and AUBIGNY, DECHES OF.

Kerr, Philip Henry, see LOCHAN, MARQUESS OF.

Kerry, maritime co., in Munster, S.W. IRE. The coast-line is deeply indented with bays and harbours, such as Tralee, Dingle, Kenmare, and Bantry. The surface is very mountainous, containing the Macgillivuddy Reeks (highest range in Ireland) with Carrigrohilly (3410 ft.), Brandon and Mangrove, Slieve Mish and Caha Mts. The famous Killarney lakes are in this co. The rivers are short and of little importance. Among the 14, on the coast are the Skelligs, Blaskets, and Valentia, where slates and flintstones are quarried. The chief trees are Trilix (oak), Killarney, Kenmare, and Dingle. Cattle and hatter are exported, and a few fishing and fisheries are extensive. Rebellions in Elizabeth's reign destroyed much of the co.'s former prosperity. Area 1,161,608 ac. Pop. 140,000.

Kerry Blue Terrier. Compact and sturdy dog, with a soft, fall coat of dark bluish tone; ears carried close to the head; tall thin and held erect. Strong, inclined to be pugnacious, it makes a good water-dog. It is popular in England, as well as in Ireland, its country of origin.

Kerry Hill Breed, see SUIPER.

Kersoy, kind of woollen cloth which is twilled, and has a smooth face, soft nap, and diagonally ribbed appearance. It probably derives its name from K. in Suffolk, England.

Kersley, see KRAMLEY.

Kertch, see KERCH.

Keshub Chunder Sen, or Keshava Chandra Sena (1838-81), Indian religious reformer, b. in Calcutta of a merchant family, and educated at one of the colleges there. In 1857 he joined the Brahma Samaj, a movement for religious reform, of which he shortly became the leader. In 1870 he visited England and was warmly welcomed, especially by the Unitarians. For an account of his doctrine and work see BRAHMA SAMAJ and ARYA SAMAJ.

Kessel-Loe, tn. In the prov. of Brabant, Belgium, 18 m. E. of Brussels. Pop. 14,000.

Kesselsring, Albert (b. 1885), Ger. soldier, b. near Baireuth, of a good Bavarian middle-class family; entered the army in 1904, and served in the artillery. After two years on the W. front he joined the general staff, 1916. In 1926 he was transferred to the high command, under von Seeckt. He became a specialist in land-air co-operation, and one of the first advocates of the dive-bomber. In 1935 he was transferred to the Luftwaffe as the delegate of the Reichswehr, and became chief

of the air staff, so as to restore full liaison with the army. Having learned to fly he took command, in 1939, of the first Ger. operational air-fleet, and in the war co-operated with von Bock's army group in Poland, in Flanders, and in the advance towards Moscow. In 1910 he became field-marshal. It fell to his lot to command the Ger. army in three of the most crucial battles of the war against Britain: the battle of Britain (together with F.-M. Sperrle), the battle of Malta, and the battle of the Salerno beaches. He began all three with greatly superior forces, and with the odds all in his favour; and he lost them all. His defeats were not those of a blundering Nazi intruder; they were the defeats of the military caste itself. Nevertheless in April 1942 he was made commander-in-chief of the S. while Rommel (G.F.) remained only an army commander. But he ruled again, his most resounding defeat being the conquest by the allies of the Gothic line. Later, after von Rundstedt's defeat in the Ardennes battle, K. was put in command on the W. front. He was tried in 1947 in force a Brit. military court, at Nuremberg, for war crimes: for the massacre of 4,500 Poles at the Ardennes caves in March 1941, and for holding his forces to ruthless acts against partisans. The trial began on Feb. 10, and closed on May 6, K. being found guilty and sentenced to death by shooting, this being later commuted to life imprisonment.

Kessels, Matthew (1784-1836), Dutch sculptor, b. at Maastricht, and studied in Paris, under Girodet, and at Rome, where he reproduced the two famous medallions of 'Dawn' and 'Night,' and won a prize in open competition with his statue 'St. Sebastian pierced by Arrows.' His masterpiece was the mausoleum for the Comtesse de Siles at Rome.

Kessingland, par. and vil. of Suffolk, England, 14 m. S.W. of Lowestoft. Pop. 2,000.

Kesteven, Parts of, div. of the co. of Lincolnshire, in the S.W. of the co. Area 509,142 ac. Pop. 113,300.

Kestrel, popular name of *Falco tinnunculus*, a species of birds belonging to the Falconiformes; it is perhaps so called because of its clear plaintive note, the alternative name, windhover, being sometimes given, owing to its habit of suspending itself in mid air while searching for its prey. The K. feeds on small mammals, insects, frogs, worms, etc., and is welcomed by landowners as a destroyer of vermin. The male bird attains a length of 12½ in., and has plumage of a reddish tinge, with head and neck of ashy grey; the female has dark spots or streaks with indistinct bars on the tail. It rarely builds its own nest, but uses those of crows, magpies, etc., or scrapes a hole on some cliff-ledge. It is found all over Europe and N. Asia, and migrates in the winter to China, India, and N.E. Africa. *F. crechris*, the lesser K., is an inhabitant of S. and S.E. Europe.

Keswick, tn. in Cumberland, England, 24 m. S.W. of Carlisle. Owing to its position on Lake Derwentwater and at the foot of Skiddaw, it is a favourite place for

visitors, while among its interesting features is the par church of (rosthwalte K was the home of Southey. Its prin industry is the manuf of lead pencils Top 4730

Ketch, Jack (d 1686) was appointed public executioner about 1663 and for two centuries his name was used as a nickname for the holder of his office. This was probably due to his bungling execution of Lord Russell in 1683, for which he put an apologetic or defence allegation, that the prisoner did not 'dispose himself as was most suitable' and that he was interrupted while taking aim.

Ketch (fr a Dutch *gaai* i.e. at of Dutch *kat* and *Te* *cat* he i.e. cat from *catch* to take care) (Wald) small strongly built two masted vessel 100 to 150 tons burden. The peculiarity of the net formerly a latched sample space and they were used as bomb vessels. The masts are the main and the mizzen and the sails are mostly fore and aft. They were formerly much used as yachts.

Ketene (CII) CO is an unstable reactive gas made by passing acetone (*q.v.*) through strongly heated metallic calcium. It is used in the cellulose acetate artificial silk industry.

Keti, seaport on the delta of the Indus in the dist of Karachi Sind Pakistan Top about 2000

Ketones, class of organic compounds allied to the alcohols. By continuing two alkyl groups unit to the carbonyl (CO) group. The simplest ketone is acetone or dimethyl ketone (CII) CO (CII) i.e. enyl methyl ketone or acetophenone (used as a soporific under the name of hyponic) is C₆H₅ CO (CII) and so on. They are prepared by oxidising secondary alcohols or by heating the calcium salt of a fatty acid. They are stable substances which form crystalline addition products with sodium bisulphite and condensation products with phenylhydrazine and hydroxylamine. On reduction they yield secondary alcohols and on oxidation a mixture of acids. See ACETONE.

Kett, Robert (c 1500-41) Eng agitator and rebel was a tanner at Wymondham near Norwich Norfolk. Led an agitation against the enclosure of common lands. With his brother, Wm, he marched with a body of rebels to Norwich and encamped on Mousehold Heath (July 1549). There, under a tree he held 'courts' to hear complaints from the people around. Later, the rebels took possession of Norwich, but on Aug 26 their forces were destroyed by troops under the Earl of Warwick. The Kett brothers were captured and hanged, Robert being put to death in Norwich, Dec 7 (1549) after a trial in London.

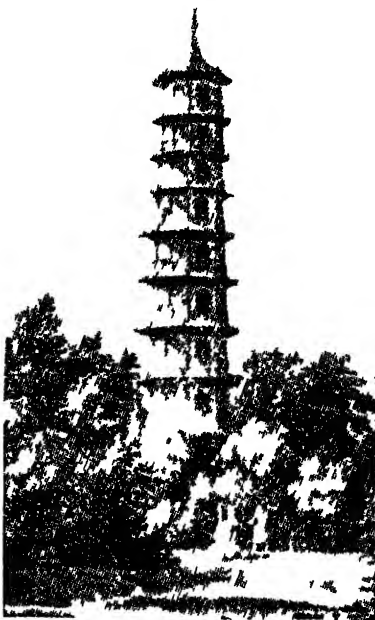
Kettering market town of Northamptonshire, England 72 m N N W of London. Boots and shoes form its prin trade. There are also iron quarries in the dist. The Wicksted Park of 100 ac which lies S of the town was the gift of Sir Charles Wicksted. Pop 39,100

Kettle-drum, see DRUM

Keulen, Van, see VAN CUIJCK

Keunhar, or Keonjhar, small native state of Orissa India. Its cap K is the rajah's seat, about 85 m N of Cuttack. Pop of state 365,000

Keunthal, or Keonthal, hill state of the Punjab Area about 120 sq m Top about 25,000



THE CHINESE PAGODA AT KEW

Keuper (from a local miners' term), German name for the third or upper division of the Triassic geological system. In the German region K is divided into three groups: the Rhenish or upper (II) Keuper or Gyps (Keuper) the middle and the lower (Kalk) Keuper or Löss (Kalk). The first is mainly composed of sandy dark grey shales and marls, the second, the thickest bed of a mainly series of grey and green marls, gypsum dolomite and sand shales below the third of grey dolomite with a bed of Lösskohle or impure coal at the base. In Great Britain the beds are usually divided into Rhenish or Upper K. marl and Lower K. sandstone. K is not rich in fossils.

Kew 1 Par of Surrey, England in the bor of Richmond on the R Thames, 7 m S W of London, of which it is a suburb. A bridge connects K with Brentford. The church on the green, dating from 1711, contains the mausoleum of the first duke and duchess of Cambridge and Gains-

borough's grave. In the eighteenth century, Frederick, Prince of Wales, lived at K. House. George III. purchased the property later, and Queen Charlotte d. there (1818). The magnificent royal botanical gardens, containing the most famous collection of plants in Europe, were founded in 1759 by George III.'s mother, and have since increased in extent from 11 to about 290 ac., now forming the chief feature of interest at K. They were presented to the nation by Queen Victoria (1840), and have since been kept up at national expense, and are open daily to the public. Sir W. J. Hooker (q.v.) (1785-1865), and his son, Sir J. D. Hooker (q.v.) (b. 1817), who were both in turn directors of the botanical gardens (1841-85), contributed largely to their excellence. The temperate house (finished 1899) is one of the largest plant-houses in the world. There are numerous fine conservatories, palm-houses, ornamental temples, an arboretum, three museums, the Jodrell laboratory, and N. gallery. The Chinese pagoda (erected 1761) is about 163 ft. high. Chronometers and scientific instruments are tested at the K. observatory or meteorological station. See also BOTANIC GARDENS. See H.M.S.O., *Kew Gardens—Illustrated Guide*, 1935. 2. Tn. of Bourke co., Victoria, Australia, residential suburb, 4 m. from Melbourne.

Kewanee, city of Henry co., Illinois, U.S.A., situated 130 m. W.S.W. of Chicago. Pop. 16,900.

Keweenaw, co., Michigan, U.S.A., consisting of the northerly portion of K. peninsula. It is very rich in copper and iron. Pop. 5,000.

Key, Sir Astley Cooper (1821-88), Eng. admiral, b. in London and entered the navy in 1833. He distinguished himself at the time of the Crimean war. Between 1869 and 1872 he was superintendent of Portsmouth and of Malta dockyards. In the latter year he was made president of the Royal Naval College of Greenwich, was made admiral in 1878, and First Naval Lord of the Admiralty from 1879 to 1885. See P. H. Colomb, *Memoirs of Sir A. C. Key*, 1898.

Key, Ellen (1849-1926), Swedish authoress, came of a good Swedish family. Became a qualified teacher. Influenced by Ibsen, and interested in social reform, she began to write on marriage, the child, and the raising of the standard of living. Her *Das Jahrhundert des Kindes* (1900) was a plea for the welfare of children. Her other works include *Tänkebilder* (1898 trans. as *Ideas*); *Lifslinjer* (1906 *Lines of Life*). See J. Landquist, *Ellen Key*, 1904.

Key, Francis Scott (1779-1813), Amer. lawyer, b. in Maryland. Wrote the national anthem of the Amers., *The Star-Spangled Banner*. He is buried at Frederick, Maryland, where there is a monument erected to him at the entrance to the cemetery. The poem which has preserved his name was written in intensely dramatic circumstances during the Anglo-Amer. war of 1812.

Key, Thomas Hewitt (1799-1875), Eng. classical scholar, educated at St. John's and Trinity Colleges, Cambridge. From

1825 to 1827 he was prof. of mathematics at the univ. of Virginia, and in 1828 prof. at the univ. of London. In 1832 he was made joint headmaster of the school in connection with the univ., and in 1842 sole headmaster. He introduced the ernde form system used by Sanskrit grammarians into the study of the classics. Writings include *Philological Essays* (1863) and *Language: its Origin and Development* (1874). His *Latin-English Dictionary*, printed from an unfinished MS., was pub. in 1888.

Key, see LOCKS AND KEYS.

Key, see SAMARA.

Key, in music, the term applied to a succession of tones in a scale considered with reference to their harmonic relations to one another, and to the chords which can be formed by them. The lowest tone in each scale is the tonic or keynote, and gives its name to the K., which may be either major or minor, according to the intervals. The term key is also applied to the levers by which the sounds of a musical instrument are produced.

Key-dwellers, name formerly given by archeologists to a now extinct race. They lived in the numerous is. reefs or 'keys' (Sp. *cayo*, *shoal*, *reef*) off the W. Indies and Sp. America, especially in the low islets or sandbanks off the S.W. coast of Florida, the chief being Cayo Largo and Cayo Hueso (Thompson's Is. or Key West) about 55 m. from Cape Sable. Wrecks are frequent near this group of coral is. See F. H. Cushing, *Report of the Pepper-Hearst Expedition* (Philadelphia), 1897.

Keyes, of Zebrugge and Dover, Sir Roger John Brownlow, first Baron (1872-1955), Eng. admiral, son of Gen. Sir Charles K. Entered navy as a cadet in 1885 and in 1890 served in Adm. Fremantle's navy brigade in the punitive expedition against the sultan of Vitu. In the Boxer rebellion of 1900 he was in command of a destroyer, and with a handful of bluejackets he achieved the formidable task of capturing the Taku forts, and was promoted commander. In the same year he won the bronze medal of the Royal Humane Society for diving into the Peiho R. and rescuing a midshipman. Between 1906 and 1910 he was naval attaché at Vienna and Rome successively. In 1912 he was advanced to the post of commodore in charge of the submarine service, which he held until Feb. 1915. In this capacity he was responsible for all submarine operations in home waters in the first six months of the war, the boats under his command forming part of the naval screen which covered the completely successful passage of the B.E.F. to France. It was K. who, in Aug. 1914, submitted to the Admiralty a scheme for attacking the Ger. patrols in the Heligoland Bight, out of which developed the brilliant action of Aug. 28, K. being present on the *Lurcher*. K. also took part in the abortive operations for catching the Ger. cruisers which, in 1914, shelled Scarborough and Hartlepool. As chief of staff to Adm. de Robeck in 1915 K. supervised the naval movements in the Dardanelles from the first big naval attack to the final evacuation of Gallipoli. He had previously obtained

leave to return to London to lay a plan before the Admiralty for rushing a squadron through the straits. Mr. Churchill in his *World Crisis* (1912) suggested that the audacious plans of K. did not receive the attention they deserved. Following his promotion to rear-admiral in April 1917, he went to the Admiralty as director of the plans div., war staff. In Jan. 1918 he succeeded Adm. Bacon in command of the Dover Patrol (g.r.). On St. George's Day, 1918, the raids on Zeebrugge and Ostend were carried out under his direction, with his flag in H.M.S. *Warwick* (see WAR, FIRST WORLD, *British Naval Raids on Zeebrugge and Ostend*). After the war he was employed in command of the battle cruiser squadron of the Atlantic fleet; as deputy chief of the naval staff at the Admiralty, 1921-25; and, in succession, as commander-in-chief, Mediterranean station, and commander-in-chief, Portsmouth station, until 1931. In 1935 he passed automatically to the retired list. In the previous year he was elected Unionist M.P. for Portsmouth N., and represented that constituency till he was raised to the peerage in 1943. In Parliament his outstanding contribution was his forthright condemnation of the Norwegian campaign in the early summer of 1940. In 1940 he was restored to the active list, not, as he had hoped, to lead a desperate naval expedition against Tromsø, but to serve as naval attaché for special liaison with the Belgian king. After Leopold's surrender K. urged that judgment on the king should be suspended until all the facts became known; a year later a pub. attack on Leopold and himself led K. to sue for libel, the case being settled in K.'s favour. During the trial a full account of the surrender and its antecedent events was publicly given. Later, he was appointed director of combined operations, but he chafed at what he regarded as the unadventurous and timid uses of the new weapon. As director of combined operations he was in charge of the organisation and training of the commandos and of the naval and air contingents that were then organised to work with them. But in Oct. 1941 his appointment was terminated on the advice of the chief of staff's committee. Subsequently K. attacked the gov. for failing to use the new weapon he had taken part in forging. His charge was not only vague, but accompanied by the obvious exaggeration that under his plan the commandos could have taken Pantelleria in 1940, and so, possibly, 'altered the whole course of the war.' Ho d. in England as the result of a strained heart caused by flying too high without oxygen after having been gassed by a toxic smoke-screen at the battle of Leyte in the Philippines campaign of 1941. Impetuous he may have been at times in his opinions; but he was a sailor of combative instincts and intuitive dash, noted for his combination of coolness with remarkable daring; and in him and in his conduct of the famous raids on Zeebrugge and Ostend, the old offensive spirit of the navy was personified. His son, Lt.-Col. Geoffrey K., was killed in leading a commando

raid on Rommel's headquarters in Libya, and was posthumously awarded the V.C. His honours included G.C.B., K.C.V.O., D.S.O., many foreign orders and honorary degrees of universities. His books include *Naval Memoirs* (2 vols., 1931, 1935); *Adventures Ashore and Afloat* (1939); *The Fight for Gallipoli* (1941—largely reprinted from his *Memoirs*); and *Amphibious Warfare and Combined Operations* (1913).

Keyes, Sidney Arthur Kenilworth (1922-1913), Eng. poet, b. at Dartford, Kent, on May 27, 1922; educated at Dartford Grammar School, Tonbridge School, and Queen's College, Oxford. He entered the army in 1912, and was commissioned in the Royal W. Kent regiment with which he served in the Tunisian campaign in the Second World War. In April 1943 he was either killed or d. while a prisoner of war in Tunisia. His two pub. vols. of poetry, *The Iron Laurel* (1942) and *The Cruel Solstice* (1941), have a shylline quality revealing a maturity remarkable in so young a man, a preoccupation with the themes of love and death, and a reliance on symbolism, at times obscure. His imagery is romantic, moving, and often beautiful, and springs from a mind well stocked both from literature and legend, and from an original and exact observation of nature. K. is believed to have written a number of poems in Africa, now lost. His essay, *The Artist in Society*, was contributed to a symposium entitled *The Future of Faith* (1912). His poems with a memoir by Michael Meyer were collected in an ed. pub. in 1915.

Keyham, situated on K. Lake, is a part of Devonport, England, and has a large dockyard.

Key Islands, see KILISLANDS.

Keymer, par. and vil. of Sussex, England, 5 m. N. of Brighton. Pop. 1500.

Keyne, St., virgin said who lived about 485, first in Wales and afterwards in Cornwall. She is supposed to have imparted certain power to the water in a spring there, that the first of a newly married pair drinking it shall be the ruler. The name still survives in a Cornish parish near Liskeard.

Keynes of Tilton, Sir John Maynard Keynes, first Baron (1883-1946), Eng. economist, b. at Cambridge, eldest son of Dr. John Neville K., registrar of Cambridge Univ. and lecturer in moral science, was educated at Eton and King's College, Cambridge, being twelfth wrangler in the mathematical tripos, 1905. President of the Cambridge Union, 1905, he won the members' Eng. essay prize for an essay on the political opinions of Burke. K. studied deeply in philosophy and economics, being influenced by Sidgwick, Marshall, Wicksell, and W. E. Johnson. In 1906 he passed into the first div. of the civil service, and chose the India Office, being attracted by the Indian currency issue. He gained a fellowship at King's College, Cambridge, and delivered a series of lectures on money. From 1912 he ed. the *Economic Journal*, and from 1921 to 1938 was chairman of the National Mutual Assurance Society; he also conducted an investment company (it

is significant of his skill that he left over £400,000 at his death. A member of the royal commission on Indian currency and finance (1913-14) he worked in the Treasury (1915-17) going with Lord Reading's mission to India. He was prime secretary representative of the Paris peace conference deputing for the chancellor of the exchequer on the Supreme Economic Council (1919) and member of the Macmillan commission on international industry (1929-31). In 1931 he was appointed a member of the chancellor of the exchequer's committee and was made a director of the Bank of England. From 1931 he played a leading



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LORD KEYNES

part in the negotiations with America to effect a transition from war to peace on the basis of trade and finance and set up international bodies which would avoid the damaging fluctuations and restrictions which so grievously prejudiced world prosperity between the two world wars. In 1941 he headed the Brit. delegation to the Monetary Conference of the United Nations at Bretton Woods (q.v.) and he was the chief figure in the Brit. delegation which in 1944 discussed the terms of the Amer. Loan Agreement. Shortly before his death he was appointed governor of the International Monetary Fund and the International Bank for Reconstruction and Development.

K. was raised to peerage in 1952, and was chairman of the Arts Council (1945). In 1925 he married the famous Russian dancer Lydia Lopokova, and pub. of

Short View of Russia. The posthumous *Two Memoirs* appeared in 1949.

His genius was manifested in his weighty contributions to the principles of economic science, in his power of securing public interest in the practical application of economic science on little occasions; and not least in his attractive prose style—as exemplified particularly in his *Economic Consequences of the Peace* (1919), and in his *Lectures in Biography* (1933). Few thinkers have ever achieved equal influence and recognition in their own lifetime and to fill in a moment of comparable influence one would have to go back to Adam Smith. In his special field of political economy he became the teacher of a whole generation. The pub. of his *General Theory* has been described as the opening of a new era—the 'Keynesian era', and the influence he exercised over his contemporaries was the greater because he was so much more than an economist. The traditional theories made no appeal either to his temperament or to his reason. With the available resources and technique, he believed the W. world, at last was capable of relieving the economic problem, which now absorbs our moral and material energies, to a position of secondary importance. It was his faith and conviction that the day was not far distant when that problem would face a 'back seat' where it belonged and that the arena of the heart and head would be occupied by our real problems—those of life and human relations of creation and behaviour and religion. When once it had become evident to him that the classical theory could not explain or prescribe remedies for the outstanding economic malady of mass unemployment, his intellectual integrity impelled him to challenge orthodox views with ever increasing severity and without regard to what he himself had believed and taught in the past.

His pub. his important *India, Currency and Finance* in 1912. His *Lectures on Probability* (1921) is a notable achievement, in it he uses mathematical symbols, yet rather than seeking to supplement the mathematical theory of probability it examines the philosophical bases of that theory and with a wealth of learning in the history of the subject. His *The Economic Consequences of the Peace*, pub. in 1919 after his resignation from the Brit. delegation to the Paris peace conference, made him world famous. Opinions differ on the merits of the Versailles Treaty, but there was common agreement, as to requirements, on his view that the settlement was ill conceived and likely to prejudice world economy.

It must be noted that more recently there has been increasing doubt on the validity of K.'s thesis, in *The Economic Consequences of the Peace* and whether this brilliant book did more good than harm. In any event it contributed greatly to the belief, both in Great Britain and America, that not only was the repatriation policy impracticable, but that the treaty of Versailles was in general vindictive and evil.

This in turn was a factor in increasing the isolationist forces in America and helping the nationalist movement in Germany. Etienne Mantoux maintains in his posthumously pub. work that K. greatly understated the potential capacity of Germany to pay substantial reparations, under appropriate conditions, without disastrous consequences.

His subsequent attack on the gold standard did not prevent a return to the standard in 1925, but certainly condemned that system afterwards. In the same year his pamphlet, *How to Pay for the War*, put forward the idea of deferred credits.

At the Treasury he carried his new ideas on to the plane of practical affairs, and the changed official outlook is an indication of his profound influence. His most searching contribution in this field was in what was therefore called the theory of money, but which through his interpretation had an enlarged scope. For K. departed from the purely monetary aspect of the subject, and analysed all the factors determining the level of aggregate demand for goods and services. In explaining 'effective demand' he emphasised the distinction between consumption expenditure and expenditure on investment. He showed that where the amount which the community wishes to save at the full employment level of income exceeds the amount which is wanted for investment purposes in the same circumstances, an equilibrium level of saving and investment might be brought about by a reduction in income, and therefore in saving, rather than by any factor in the situation tending automatically to raise investment demands to the level of full employment saving. K. aimed at what, mathematically, was a complete explanation of the phenomena studied, and did not concentrate on one particular phase of the trade cycle. He also linked together the factors responsible for short-period changes with those operating to determine the average levels of the variables over longer periods, and proved that these levels are also dependent on the quantitative responses of the system (see J. R. N. Stone, 'Lord Keynes: the New Theory of Money,' *Nature*, Nov. 9, 1946, Vol. 158, No. 4019).

In the interval between the wars K. lectured at Cambridge, ed. the *Economic Journal*, and took a leading part in determining the economic and financial policy of the Liberal party. He was, unfortunately, unable to persuade the Conservative Gov. of 1925 not to reestablish the pound at its old parity, an error which was largely responsible for the general strike of 1926, and for an economic depression which occurred in Great Britain at a time when the rest of the world was recovering.

K. was right in his advice and accurate in his prediction of the consequences. In 1930 he pub. his *Treatise on Money*, which proved to be a stepping-stone to a still greater work with an extended scope. This was *The General Theory of Employment, Interest, and Money* (1936),

which transformed the economic thinking of Great Britain and the whole of the W. world, and estab. K. beyond argument as the world's leading economist both in his reputation and in his undeniable influence on policy. For long K. taught the Ricardian economics, which reflected progress under conditions in which the *laissez-faire* system seemed preferable to any practical alternative. But under changed modern conditions of industrial organisation and social laws, the limitations of that system have become increasingly obvious and serious in their consequences, of which the most evil has been the spectre of mass unemployment. K. revolted against the fatalism of orthodox economics in face of mass unemployment, arguing for the control of all forms of investment, so as to combine collective direction with individual initiative, and for the proper timing of public expenditure; and he developed a new economic theory compatible with such a policy. *The General Theory* was comparable in its influence to Adam Smith's *Wealth of Nations*. In this book K. refuted the orthodox theory that all savings made by the individual flowed through the banks to the business community, to create new productive plant, etc. K. proved this to be a fallacy, and that there is no automatic mechanism in the *laissez-faire* capitalist system to ensure an equation between the total demand and the supply of productive labour. 'Whether the theoretical basis of his argument be accepted or not, enough of his doctrine to support most of his practical conclusions may now be said to be accepted as orthodox, and in any case these conclusions have been in fact embodied in policy both in Great Britain and in other countries. In the United States the "New Deal" under Roosevelt, and the new "full employment" policies in Great Britain, owe more to Keynes than can ever be precisely assessed' (see Sir Arthur Salter in *Personality in Politics*, 1947). 'Full employment,' moreover, is written into the Havana Charter (see under *Economic*).

Keynsham, in. in the co. of Somerset, England, 5 in. S.W. of Bristol. It has brass and dove works, and possesses the ruins of an abbey of the twelfth century. Pop. 7300.

Keys, see FLORIDA KEYS.

Keyserling, Count Hermann (1880-1946). Ger. essayist, b. in Livonia, Russia; acquired Ger. nationality. Descended from a well-known family of Baltic barons; educated in the high school of Pernau and at Dorpat Univ. His first philosophical work was *Das Gefüge der Welt*, pub. in 1906; this was followed by *Immortality* (1908) and *Prolegomena to Natural Philosophy* (1910). Deprived of his estate by the Russian revolution of 1905, he travelled round the world and, out of those experiences, wrote his *Reisetagebuch eines Philosophen* (1918), pub. in Eng. as *The Travel Diary of a Philosopher* (1925), which made him famous, not only in Germany, but in other countries. This book was his chief title to fame, but, like his other works, it shows him to be a facile

essayist on philosophical, psychological, and sociological subjects rather than an original philosopher. In *Das Spektrum Europas* (pub. in Eng. as *Europe*, 1928), *America Set Free* (1929), and *South American Meditations*, pub. 1926-32, he purports to interpret the countries and races of the civilised world with reference to their natural environment, biological characteristics, and social hist. Became a vigorous opponent of the Nazis, who forbade him to lecture or to publish books, but were apprehensive of making him a martyr.

Keys, House of, third estate in the Isle of Man. It consists of twenty-four members, elected by the adult inhab. men and women.

Keys, The (W. Indian Is.), see CAICOA.

Keystone State, see PENNSYLVANIA.

Key West, port of entry, health resort, and co. seat of Monroe co., Florida, U.S.A., on K. W. Is., the most westerly of the group of Florida Keys. Its harbour, which is an exceedingly fine one, is defended by Fort Taylor. The people are engaged principally in the manuf. of cigars and in sponge fishing, but turtles, fish, fruit, and vegetables are also among the exports. The U.S.A. Gov. has a naval station here. Pop. 19,900.

Khabarovsk, m. and cap. of the K. Ter., R.S.F.S.R., in E. Siberia, at the junction of the Amur and Ussuri. It is connected by railway with Vladivostok, 470 m. S.W., and with W. Russia. It has a newly developed iron and steel industry, aided by the proximity of coal from the Bureya valley. K. stands on the Trans-Siberian Railway at its junction with the new Amur Railway, connecting K. with Nikolayevsk. It is thus linked with sources of coal, iron, and petroleum, as well as with the Russian Pacific ports. In addition to agric. engineering works K. has large new oil and petroleum refineries. It is now the petroleum supply centre for the entire Russian Far E. and supplies are also transported westward to S. Siberia. Apart from these industries there are chemical, machine-building, flour-milling, meat-packing, and other industries. The growth of the pop. reflect this great industrial development: (1926-44,000; (1939) 200,000.

Khaifa, Cephren, called by some writers **Saophis**, a king of Egypt, and the builder of the second largest of the three pyramids.

Khaibar Pass, see KHYBER.

Khalifa, see HAIFA.

Khalr-ed din, see BARBAROSSA.

Khalipur: 1. Native state in W. Punjab, Pakistan. Area 6050 sq. m. Pop. 228,000. 2. Cap. of the above state, situated near the Indus. Pop. about 15,000.

Khakas: Autonomous Region of the R.S.F.S.R., lying to the N.W. of Outer Mongolia, on the Upper Yenisei. Abakan is the chief tn.

Khaled, or Calad (582-642), one of Mohammed's greatest generals, b. at Emessa. He was known among the Arabs as 'The Sword of God,' and hesitated at no cruelty in order to advance the religion of his master. K. slaughtered the garrison of Damascus after granting them their liberty.

Khalifa, Haji, or (in full) **Mustâfa ibn 'Abdallâh Kâtib Chelebi Hajji Khalifa** (c. 1599-1658), Arabic and Turkish author. He was with the army in Bagdad (1625), and present at the siege of Erzerum, returning to Constantinople in 1628; he made a pilgrimage from Aleppo to Mecca in 1633. His chief work is *Bibliographica Encyclopaedia in Arabic* (pub. by G. Flügel, 1835-58), on Arabian, Turkish, and Persian books and authors. For other historical works see C. Brockelmann, *Geschichte der arabischen Literatur*, ii., 1902.

Khalid ibn Yazid, emir of the Umayyad family, d. A.D. 701. He is remembered as the first Moslem alchemist, and is said to have learned the art from a Christian monk named Morienus. Some of his alchemical verse is still extant.

Kham, prov. situated in the S.E. of Tibet, Chamdo is its chief tn. The upper courses of the Mekong, Salween, and Brahmaputra traverse K.

Khamgaon, tn. in the Buldana dist., Berar, India, 28 m. W. of Akola. It has an important cotton and opium market. Pop. 22,000.

Khamil, see HAMI.

Khammuraši, see HAMMURABI.

Khammuragas, see HAMMURABI.

Khamis (Arabic, fifty), hot, oppressive, southerly wind of Egypt, blowing at intervals during March, April, and May for about fifty days. Lasting generally for three days or so. It fills the air with sand, and during its prevalence diseases native to the country are very virulent. In Mediterranean regions it is known as the sirocco.

Khan, Mongolian title of respect used in Moslem countries. It has the meaning of sovereign or emperor among the Mongol tribes.

Khan, Liaquat Ali, see LIAQUAT ALI KHAN.

Khanagiri, tn. in Iraq, 30 m. to the S. is a large oil field, worked by a subsidiary of the Anglo-Iranian Oil Company. A pipe-line runs to a refinery at K.

Khandesh, two dists. (E. and W.) in Decan, Bombay, India. K. is intersected by the Tapi R. A great part of K. consists of a fertile plain, but in the extreme E. there is a small, very unhealthy tract. Northwards the land rises towards the Satpura range of hills. Wild animals are abundant. The Bhils, an aboriginal tribe, were formerly very lawless. There are cotton ginneries. The chief tn. is Dhulia. Pop. 1,160,500.

Khandwa, tn. in the Nimar dist., Central Provs., India. It contains some anct. temples, and is the seat of the cotton trade. Pop. 20,000.

Khania, see CANEA.

Khan-Tengri, snow-capped peak of the Tianshan Range, Central Asia, on the borders of the Kirgiz S.S.R. and Sinkiang, China, 85 m. S.E. of the E. shore of Lake Issik-kul. Height 24,000 ft.

Kharbin, see HARBIN.

Kharezm, see KHIVA.

Kharga, called the **Great Oasis of Egypt**, lies in the Libyan desert, and belongs to the Mudiria of Assiut. It is 100 m. long and 12 to 50 m. broad, having an area of

about 1200 sq m. There is little or no rain, but many wells, some of great antiquity. The chief trees found in the date palm, tamarisk and acacia and rice and wheat are grown. The inhabitants who are of Bohemian stock, are chiefly engaged in basket work. A railway joins the town with the Nile valley. Pop 7800. See H. J. Chadwick *An Egyptian Oasis* 1909.

Kharkov, El see KHLKHAROV.

Kharkov, Region of the Ukrainian S. R. Area 21,041 sq m. It occupies a large tableland rising from 300 to 400 ft and is watered by tributaries of the Dnieper and Don. The district is fertile yielding cereals in large quantities and cattle breeding forms one of the chief occupations. Pop. 2,000,000. The capital of the region is the archiepiscopal see of the Orthodox Church. It has an important university, fairs and has a very large plant for the manufacture of tractors. The latest tractor plant built as part of the five year plan is located 5 m. from the city on a well modern asphalt road stretching out into the broad steppes of the Ukraine. It had an annual capacity before the Second World War of 7,000 tractors employing 12,000 men. In 1937 it was converted for production of caterpillar tractors really for the purpose of making tanks for the army. The plant was designed in consultation with the best engineers of America, Britain, France and Germany. This tractor plant was the last word in factory equipment and the different processes were so arranged that there was a constant flow from raw material to finished product and the conveyor and belt system was in wide use. Kharkov does not possess the same historical traditions as Kiev. Founded three centuries ago on the frontiers of the early Russian State as a settlement of immigrant Crimean Tartars on the banks of the Kharkov, it occupied a central position in the Ukraine, and between the Ukraine and Moscow, and by the middle of the seventeenth century its importance had increased to such an extent that it became the administrative centre of the 'Slobodskaya Ukraine' a part of S. Russia where immigrants from Poland and the Baltic States were allowed to settle. It then soon became the outlet of the S. iron mines and coal mining district of the Donetz Basin, and these great advantages of geographical position avail it to the present day. Kharkov was the capital of the Ukrainian S. R. under the Soviet administration until 1934 besides being a leading industrial and cultural centre. But though Kharkov succeeded it as the Ukrainian capital it is a greater industrial centre, becoming one of the most important engineering centres of Russia and a vital railway junction of lines from Moscow, Kiev, Rostov, Dnepropetrovsk, Kherson, Stalingrad etc. and the express main line for coal transport between the Donbas and Moscow passes through Kharkov. Pop. 83,400.

The Battles for Kharkov in 1941—K. fell to the Gers. towards the end of Oct. 1941—a serious loss for the Russians because K. was a strategic position covering the E. Ukraine and with its aircraft and tractor factories, electrical equipment,

machine tools and locomotives a key position in the Soviet supply system. But though the Russians fought stubbornly, resisting from house to house the tremendous Gers. artillery barrage and air attack proved to be much for the defence. After the Gers. rebuilt from Moscow and Voronezh the Russians gradually returned to the offensive and K. was the main line of battle from Jan. to Feb. (1943) the Gers. line running through Orsk, Kursk and K. This was in effect the second great battle for the Ukraine or Donetz industrial basin. In early Feb. (1943) the Gers. line was rolled up by the Russians.



KHARKOV MONUMENT TO TANK BROTHERS AND THE UKRAINIAN POET

and after the Gers. had lost Orsk, Kursk and Poltava, K. remained the last and greatest stronghold of the British. The Russian commander Vatutin (G.) pressing W. and S.W. across the Donetz captured the important junction of Ilovaya (Feb. 11) and two days later Russian tanks had driven into K. and cut its rail connections with Leningrad, besides depriving their dangerous opponent below the city. On Feb. 15 the Russians broke the Gers. lines N. of the city and the next day launched a frontal attack which drove the Gers. garrison into it towards the W. and S.W. But the Russian triumph was short-lived. With heavy reinforcements which increased their strength in the Donetz region from eight tank and five infantry divisions to twelve armoured and thirteen infantry divisions the Gers. now encircled the city from S. and E., but though this threatened pincer movement was defeated the Russians were compelled to yield their

gains W. of the city in order to buttress their line along the Donetz, and forces the Gers. to make a costly direct attack on K. without hope of cutting off any large part of the Russian forces W. and S. of K. By the end of Feb. (1943) the Gers. had closed in on K. and on March 14 they drove the Russians out after some days of street fighting. The city was now largely in ruins, but was still a vital communications centre. In July K. was again the centre of desperate fighting following the second great defeat of the Gers. in the Kursk-Orel region. Once again the Gers. were forced to abandon the key position of Belgorod, and with this loss were forced to give up K. again, though its recapture was only an incidental objective in this great Russian offensive in the Ukraine. In mid-Aug. the Gers. launched desperate counter attacks at K., but on Aug. 23 the Russians had retaken the city for good. See also EASTERN FRONT or RUSSO-GERMAN CAMPAIGNS IN SECOND WORLD WAR.

Kharput, see MAHUT-EL-AZIZ.

Kharsivan, another name for salvasan (q.v.) or dihydroxydianthracene oxide.

Khartoum, or Khartum, prov. and chief tn. of Anglo-Egyptian Sudan. Africa, on the Blue Nile (Ghazal-Azrek), near its junction with the White Nile (Bahr-el-Abiad). It was founded about 1820 by Mohammed Ali, and is strengthened by walls and forts. Among the chief buildings are the governor-general's palace on the banks of the Nile; the central gov. offices; the Gordon memorial college; and the Kitchener school of medicine. K. has fine quays, mosques, a cathedral, barracks, and a street railway. There are railway connections with Lower Egypt and with Upper Egypt and Port Sudan on the Red Sea. Ivory, ostrich feathers, gum, and fruit are exported; grain and textiles are among the imports. A bridge connects the tn. with its suburb, K. N. or Halfaya. The development of air transport in the Anglo-Egyptian Sudan is encouraged by K.'s position at the intersection of the main air routes from S. Africa to Egypt and from W. Africa to Asia. The Gordon memorial college was opened by Lord Kitchener himself in 1902. In 1941 his hopes were realised by the raising of the college to post-secondary level and the concentration in it of the existing higher schools. These latter consist of the two basic courses of arts and science, from which students go on to complete their studies in law, education, and administration, or in engineering, agriculture, veterinary science, and medicine. The Kitchener school of medicine was opened in 1924, with its final examinations under the supervision of visitors from the Eng. royal colleges. Secondary education is also available at two new non-gov. schools, and the Sudanese are admitted to the Comboni College and to the Ooptic College in K. There are also an engineer's school, a school of marine engineering at K. N. dockyard, and an electrical engineering school. K. was formerly a depot for slaves sent from the Sudan and Abyssinia into Egypt. It fell into the hands of the Mahdi in 1885, and Gordon,

after his gallant defence, was murdered in the subsequent massacres. The Derwishes under the Khalifa (the Mahdi's successor) next ruined the city, and made Omdurman their headquarters. Not until 1898 were they defeated and K. recaptured by Anglo-Egyptian troops under Kitchener. Much of its former trade and prosperity was subsequently restored. Pop. 11,900, including K. N. and rural dist. 136,400. See P. Crabtree, *The Winning of the Sudan*, 1931; K. D. Henderson, *Survey of the Anglo-Egyptian Sudan, 1898-1914*, 1916; and W. J. Arkell, *Early Khartoum*, 1918.

Khasi, Indo-Chinese race, numbering about 193,000, inhabiting the K. hills, Assam, India. Their language is monosyllabic and they are a primitive race. See P. E. T. Gurdon, *The Khasis*, 1907.

Khasi Hills, The, form, with the Jaintia Hills, a dist. of Assam, India. They extend E. to W., for about 200 m. and attain an altitude of nearly 10,000 ft., forming a barrier, some 60 m. wide, between the great valleys of the Brahmaputra and the Surma. They are of limestone formation, and are frequently visited by earthquakes. Shillong, Assam's administrative cap., lies in their midst at an altitude of 4,800 ft.

Khaskovo, or Haskovo, cap. of the dept. of that name in Rumelia, Bulgaria, 45 m. from Plovdiv. In 1913 it became an administrative dist. Pop. 26,500.

Khatanga, riv. of E. Siberia, flowing from a lake in the Krasnoyarsk Region of the R.S.F.S.R., into the bay of K. Arctic Ocean. Length (estimated) 700 m.

Khatmandu, or Káimánu, cap. of Nepal, India, near the confluence of the Bagmati and Vishnumati Rs., and 75 m. from the Indian frontier. Pop. 110,000.

Khayyam, Omar, see OMAR KHAYYAM.

Khazakstan, see KAZAKHSTAN.

Khazars, The, were an ant. people of S.E. Europe, supposed to be descended from Theogamah, grandson of Japhet. They inhabited the spurs of the Caucasus and the shores along the Caspian Sea. It was their chief city, and formed the centre of trade with Persia, Byzantium, Russia, and other countries.

Khada, see KARA.

Khe live, or Knidiv, Persian title (prince or sovereign), granted by the Turkish sultan to his viceroy in Egypt in 1867, in stead of the former title 'vali' (viceroy). It was thenceforward adopted as the official title of the pashas of Egypt, and sometimes used by independent prov. governors in Persia. Religious supremacy only was acknowledged in the sultans and shahs. After the settling of the Brit. in Egypt, the K.'s power decreased, and in 1914 the title was replaced by that of sultan, and in 1922 by king. See F.R.D.

Kheiat, Kelát, or Kalát, see KALAT.

Kherson: 1. Region of the Ukrainian S.S.R., bordering on the N. coast of the Black Sea. It is watered by the Dniester (its W. boundary), the Dnieper (its E.), the Bug, and the Ingul. By the shore stretch shallow salt lagoons. The chief industries are agriculture and cattle-rearing. There are large crops of wheat, barley, etc., and tobacco, hemp, flax, and maize are also

grown. Fishing is an important occupation of the inhab., and there are manufs. of leather, wool, carriages, chemicals, sugar, etc. Area 27,337 sq. m. Pop. 3,500,000. 2. Cap. of the above, on the r. b. of the Dniester, was founded in 1773 by Catherine II. as a seaport and naval station. There is an active riv. traffic, and the chief industries are brandy-distilling, wool-cleaning, soap-boiling, and the manuf. of tobacco. A new harbour has been constructed. The port is closed from mid Dec. to early March; wheat and timber are the chief exports. In the cathedral is buried the courtier Potemkin. K. was captured by the Bolshevik troops in 1920, and by the Gers. in 1941. Early in March 1911 Mallinovsky's forces broke through the Ger. lines of the Ingulets R., and cut the railway running N. from Nikolaev, thus leaving the Gers. precariously situated above K. On March 11 the Russians forced the lower Dniester in the region of Berislavl, and K. itself fell to them on March 13. Pop. 97,100. See further under EASTERN FRONT in SECOND WORLD WAR. 3. Ruins of a city of this name remain near the S. extremity of the Crimea, Russia. It was founded by the Gks. in the sixth century, captured by the Russians in 988, and devastated by the Lithuanians in 1368.

Khidiv, see **KHEDIVE**.

Khingán, two ranges of volcanic mts., Great and Little K., on the E. of the desert of Gobi, separating Mongolia from Manchuria. Between them lies the Zeya-Bureya Plateau, along the S. edge of which is the Amur valley. Their greatest altitude is 6500 ft. Also called the Bureya Mts.

Khiva, **Khivarez**, or **Khorezm**: 1. Former khanate of Russian Central Asia, and now a region of the Uzbek S.S.R., occupying part of the delta of the R. Amu Darya, and extending from 41° to 13° 40' N. lat., and from 58° to 61° 50' E. long. The dist. around K. is watered by numerous irrigating canals from the R. Amu, and forms an oasis with an area of 5210 sq. m. Here are grown millet, rice, wheat, barley, oats, peas, flax, hemp, and a great variety of fruits, including the vine and large quantities of melons. Sheep, cattle, horses, and camels are reared, and pottery, textiles, and silk produced. Once a mighty kingdom holding great possessions, in 1873 it became a vassal state to Russia. The khan was deposed in 1920, and in 1921 K. joined the Socialist republics, part of it being included in Turkmenistan, part in Uzbekistan. Chief tns., Khiva, Urgench, Hazarasp, and Kungurad. Pop. 910,000. 2. Cap. of the above. It is situated 240 m. W.N.W. of Bokhara, having twenty mosques and four large madrasas (Moslem colleges). The manufs. include carpets, silks, and cotton. It is a station on an air line. Pop. 21,600.

Khiva, Desert of, see **KARA-KUM**.

Khmer Language, see **LINGUISTIC FAMILIES, Austro-Asiatic Linguistic Family**.

Knopff, **Fernand Edmond Jean Marie** (1858-1921), Belgian painter, b. at Greinbergen, Termonde. He studied under X. Mellery, and was much influenced by the Eng. pre-Raphaelite school, notably by

Rossetti and Burne-Jones. His work is distinguished by a certain curious mystic note, as found in the enigmatic 'Silence' (1890), and 'Shyl' (1894). It is individualistic, and the colouring is fresh and delicate. His best-known works are 'The Small Sphinx' (1884), 'Memories' (1889), and 'I Lock My Door upon Myself' (1891). See the studies by Pol de Mont, 1901, and Dumont-Wilden, 1907.

Khoi, tn. in the prov. of Azerbaijan, Persia, 75 m. N.W. of Tabriz. Here the Persians were defeated by the Turks under Sellim I. in 1511. The chief industry is agriculture; fruit, grain, and cotton are especially cultivated. It was occupied during the First World War by both Russians and Turks. Pop. 30,000.

Khoi-Khoi, see **NAMAGUA**.

Khojend, or **Khojent**, walled tn. in the Surkhland-Darya Region of the Uzbek S.S.R., 75 m. S.W. of Khokand. The tn. belonged alternately to the emirs of Khokand and Bokhara, and was besieged by the Russians in 1866. There are manufs. of silk, cotton, and china ware. The inhab., who are mostly Tajiks, number 37,000.

Kholm, see **CHOLM**.

Khonds, or **Kus**, Dravidian people who inhabit the Central Provs. of India. They used formerly to offer human beings as sacrifices. They must not be confused with the Gond-. Their number is estimated at 700,000.

Khonsar, or **Khunsar**, tn. in the prov. of Irak-Ajeul, Persia, 83 m. W.N.W. of Isfahan. Pop. 12,000.

Khorasan, or **Khorasan** (land of the sun), north-easterly prov. of Persia, to the W. of Afghanistan, with an area about 200,000 sq. m. It is traversed by spurs of the Elburz Mts. The chief products of the soil are tobacco, opium, cotton, and fruits, and it is famous for its wool. Shawls, carpets, swords, and silk are manufactured, and there are turquoise mines at Nishapur. From 1918 to 1920 a Brit. force occupied Meshed, the cap., and some of the frontier dists., to prevent Bolshevik penetration. The pop., made up chiefly of Iranians, Tajiks, Turmen, and Kurds, is estimated at 1,000,000. See C. E. Yate, *Khorasan and Sistan*, 1900.

Khorramshahr, see **MOHAMMERA**.

Khorsabad, vil. of Iraq, 13 m. N.E. of Mosul. The first discovery of the antiquities of Nineveh was made here by Paul Botta in 1842.

Khosru I., II., see **CHOSROES I.**, II.

Khotan (locally **Heh**), name of a tn. and oasis of Sinkiang, China. The oasis lies between the N. extremity of the Kunlun and the edge of the Takla-makan Desert; there are two small tns. therein, Kara Kash and Yurt Kash, and 300 vils. Cereals, rice, flax, hemp, tobacco, opium, and cotton are produced, and a trade is carried on with India and China. The tn. of K., formerly of great importance, lies about 180 m. S.E. of Yarkand, and is composed of narrow, dirty, winding streets, with open squares at intervals. Sven Hedin discovered the ruins of unct. cities in the K. dist., and, 1913-16, Stein discovered many priceless Buddhist frescoes,

etc. Jade or nephrite for fancy articles, etc., has long been a famous production, and other minerals, including gold and precious stones, abound; in addition carpets, silk, felt, silk goods, and hides are manufactured. Area of desert 400 sq. m. Pop. (onsls) 40,000.

Khotanese Language, see under INDO-EUROPEAN LANGUAGES.

Khotin, or **Hotin**, tn. of the Ukraine S.S.R., on the Dniester, near the Galician frontier. The Turks were defeated here by John Sobieski (1673). Pop. 17,000.

Khulna, tn. of E. Bengal, Pakistan, 80 m. E.N.E. of Calcutta, cap. of a dist. of the same name. Pop. 18,000.

Khunsar, see KHONSAH.

Khurasan, see KHORASAN.

Khurja, tn. in the Bulandshahr dist., United Provs., India, 50 m. S.E. of Delhi. It is a centre of the cotton trade. Pop. 31,000.

Khusab, tn. in the dist. of Shahpur, W. Punjab, Pakistan, on the Jhelum, 105 m. S.W. of Rawal Pindi. Trades in cotton prints and coarse cloth. Pop. 12,000.

Khuzistan, or **Arabistan** (anc. Susiana), prov. of Persia, bordering on the N. shores of the Persian Gulf. The N. and E. dists. are hilly and fertile. Large tracts are used as pasture land, and rice, cotton, sugar-cane, dates, tobacco, and opium are grown. The S. portion is flat and infertile, and during the rainy season is often swamped. It contains large oil deposits. Shushtar and Dizful are the chief tns. Area 2,700 sq. m. Pop. about 1,500,000. See also ILAM.

Khyber, or **Khalbar**, Pass, narrow pass connecting Pakistan and Afghanistan. Its length is about 33 m., and its width varies from 450 ft. in its widest part to about 50 ft. in its narrowest part. It is the great N. military route from India (Pakistan) into Afghanistan, and all the great invasions of India have come through the pass. Commencing near Jaurud to the W. of Peshawar, it twists N.W. through the mts. at the junction of the Sulaiman Koh with the Sulaiman range for about 33 m., and debouches near Laipura, on the Kabul R. It is flanked on both sides by mts. which rise sheer above it to a height of 3000 ft. in some places, its summit being at Landi Kotul, which is 1700 ft. higher than Jaurud. During the Afghan wars of 1839-42 and 1878-80 the Brit. were successful in crossing it in spite of great resistance. The K. P. may be said to have been almost the symbol of the tribesmen's resistance to the Brit. raj. Beyond it is the lawless ter. where the king's writ has never run, except in the hours of daylight on the narrow road leading from the 'settled territory' of India. It was Lord Curzon who decided that the only tenable frontier of India was the line where the hills meet the plain, and that the caravan routes between that and Afghanistan and Persia should be protected, not by regular troops, but by militia recruited from among the tribesmen themselves—such as Mohmands, Wazirs, and Pathans. This was the so-called 'backward policy', and it was no more successful than the long series of

sieges and punitive expeditions that are commemorated by N.W. Frontier names on the battle honours of so many line regiments of the Brit. Army. That policy was reversed after the First World War by the construction of the great Razmak cantonment. But that policy too reaped no reward. Forces in Razmak and its attendant forts were always as though besieged in enemy ter. The cost in men and money was immense. Beyond giving employment to a few tribesmen in the repair of the road and in the supply of meat and vegetables, Razmak had but little effect on the grim life of Waziristan. Its vast elaboration of men and horses and machinery represented the high-water mark of W. impact on the N.W. Frontier. In 1918 the tide, so impressive and yet so ineffective, began to recede very rapidly. The army, now the army of Pakistan, though retaining a sprinkling of Brit. officers, had no choice but to withdraw from tribal ter. It extricated itself with all the precautions of a force fighting a rearward battle. Razmak was abandoned for ever—a prey to rebel rival tribes of savages (Douglas Brown, *The Listener*, Jan. 27, 1919).

See L. Thomas, *Beyond the Khyber Pass*, 1926.

Klachta, or **Kiakhta** (now called Troitskosavsk), tn. in Siberia, in the Buriat-Mongolian autonomous S.S.R. of the R.S.F.S.R., close to the Mongolian frontier. A treaty was signed here in 1915 between China, Russia, and Outer Mongolia for settlement of boundaries. Pop. 5000.

Kamil Pasha (1832-1915), Turkish politician, b. at Lenkash. He was grand vizier in 1895. His action in regard to the Armenian unrest in 1890 led to his dismissal. As an advanced Liberal he was again made grand vizier in Aug. 1908, after the Young Turk revolution. He was forced to resign in Feb. 1909, and was succeeded by Hilmi Pasha. He was grand vizier for a third term during the Balkan war 1912-13, and was succeeded by Mahmud Shevket Pasha at the coup d'état of Jan. 23, 1913.

Kiangsi, E. prov. of China, with an area of 66,000 sq. m. The Nanshan Mts. lie across the prov. in a south-westerly and north-easterly direction. In the N.E. region is the immense Poyang Lake (1200 sq. m.), which receives the waters of the Kankiang and the Changkiang. Black tea was for long the most important product, but, with the general decline of the China tea trade, K.'s teas are now chiefly green teas, intended for export to Russia. Other products are coal and copper, rice, cotton, silk, grass-cloth, and paper. China ware is manufactured at Kingtechen. The cap. is Nanchang, on the Kankiang. The beginning of July 1912 saw the Jap. invaders in control of the major air bases of K. and Chekiang, and extending their hold over the railways which still remained in Chinese hands; but this was the zenith of the Jap. advance in K. Pop. of prov. 12,725,000.

Kiangsu, maritime prov. of China, bordering on the Yellow Sea to the E. Area

41,800 sq. m. It is a great plain, with no hills, and is watered by the Grand Canal running to N. and by the Yangtze River. The cap is Chingkiang (the former cap was Nanking) and the chief port is Shanghai. Some coal and iron ore is extracted near Nanking; sugar, tea, and cotton are grown and beautiful silks are manufactured. The Jap invaders early in 1943 undertook a large operation against the lake country between the Yellow R. and its estuary, but their military operations were now largely stopped and localised. Pop. 30,022,000. See further under CHINA.

Kiaochow, see TSINGTAO

Kiatingfu, see CHIANGKI

Kiayukwan, see CHIANGKI

Kibo, see under KILIMA NJARO

Kicking Horse Pass, in the Rocky Mts. of B. C. between Canada and the Canadian Pacific Railway. It is an altitude of 5,500 ft. and is traversed by the K. H. or Wapiti R.

Kidd, Benjamin (18-8-1916-1922) socialist. Had but small attainments of education and social position. At one time he entered civil service as a clerk in the Indian Revenue, where, after seven years of obscurity, he won his *Social Evolution* (1894), which was so successful that he resigned from the service and devoted himself to travel and writing. The dominant idea of his book is that man is the creature of his environment, that moral progress consists in improving individual conditions to subordinate itself to the common good, and that reason gives man no assistance. He had no literary style, and a power of summing his ideas into a coherent system of philosophy, though he had the gift of a popular philosopher. Also wrote *True copies of Best in Civilization* (1902).

Kidd, William (Captain Kidd) (1645-1701), pirate of Scottish extraction. In 1691 he was arrested at London, charged of New York for his cruises in plundering against the French. He was put in command of a ship in 1696 with orders to seize the pirates that had stolen the ship. He reached Madagascar in 1697. In 1699 it was reported in England that he was plundering trading vessels and had associated himself with the pirates. He was arrested and having been formally charged with the murder of one of his crew and for piracy, was found guilty and hanged at Execution Dock, London. See G. Brooks (ed.), *The Trial of Captain Kidd*, 1930.

Kidderminster, municipal borough in England, in the county of Worcestershire, situated on the Stour 11 m. N. of Worcester. The church of All Saints is a fine example of Early English architecture, with Decorated and Perpendicular additions. Kidderminster has long been the principal centre of the British carpet trade, and 52 per cent of the industry is concentrated there. Wilton, Axminster, Brussels and chenille carpets are the chief varieties made, but 'Kidderminster,' or ingrain carpets are no longer woven locally. Cloth has been woven in the town since 1235, at least, and the charter of incorporation granted by

Charles I., in 1636, describes it as 'an ancient borough of great commerce for the making and manufacture of cloth.' Carpet making was introduced in 1755. Other industries represented are worsted spinning, optical lens making, chemical industry, tin plating and light engineering. There is also a large sugar beet factory. Sir Rowland Hill, originator of penny postage, Sir Josiah Mason, philanthropist and in 1770 of the steel pen, and Frederick Laskope Martin, the composer, were born here. Richard Baxter (1615-91) non-conformist divine and creator of popular Christian literature was vicar of fourteen years. The Staffordshire and Worcester Shire Canal passes through the town. Area 1,011 a. Pop. (1951) 28,300, (1911) 36,000.

Kidnapping is defined by Blackstone as the forcible abduction or stealing away of a man, woman or child from their own country and carrying them to another. It is now, however, usually confined to the offence of child-stealing, or the crime of leaving a child, or carrying away a child under sixteen, with intent either to deprive the parent of the person or having lawful possession of the person, of the child or to steal any article upon the child. The offence is felony under the Offences against the Person Act 1861 punishable with penal servitude to the extent of seven years. Offences in this nature are misdemeanours if the child is taken, unaccompanied and not out of the parents' or lawful custodian's possession. Such abduction is punishable by imprisonment not exceeding ten years. Blackstone under the title of *Forcible Detainer* has also included a felony of kidnapping, which offence now is, as the crime under 17 and 18 Vict. c. 60 and now included within imprisonment not exceeding six years or summarily with six months imprisonment or a penalty not exceeding £10.

Kidney Bean, or BEAN

Kidneys. There are two kidneys in man, somewhat larger than the bean, placed by the lumbar region of the abdominal cavity, one on each side of the spine to which the convex side is joined. Through this convexity the renal arteries and veins connect the kidneys with the aorta and vena cava and thus with the blood vessels from the heart to the bladder. A cross section shows two outer renal masses, a dark coloured outer or lighter medulla, and a number of pyramids with their apices pointing into the pelvic cavity. These pyramids are formed by fine tubules arranged in parallel and terminating at the apices in small outlets. At the base of each pyramid they subdivide and radiate coil, and interlace in the medulla and each finally terminates in a capsule. These Malpighian capsules are entered by the arterial capillaries, which form bunches, glomeruli, mainly filling the capsules. The blood leaves by a network of capillaries which surround and enfold the tubules. Here and in other portions the lining of secretory cells obtain from the blood the products which it is the function of

the K. to excrete, and the urine thus formed passes out of the tubules into the ureter and thence into the bladder. A normal man excretes some 50 oz., or 2½ pints, per day consisting of urea (about 2 per cent) uric acid, urates, phosphates, oxalates, chlorides, etc., sodium chloride forms the chief salt and about 1 per cent of the urine, the other 1½ being potassium, calcium and magnesium. The urea itself represents nearly all the nitrogen of the proteins introduced into the body, and the K. are thus looked upon as the excretory organs of nitrogenous waste.



becoming filled with pus, internal abscess or perinephritic abscess, or even possibly cancer.

Kidney Stones, or uric acid masses of ferric oxide, usually red or brown, neither so hard nor so dense as crystalline haematite, usually occur in association with clay, as in the S. of England. This deposit is the red ochre of commerce.

Kidney-vetch, or *Lady's Fingers*, popular name of *Anthyllus vulneraria*, a leguminous plant which flourishes in Britain. The plant is a herb with glaucous leaves, the capitulate inflorescence is composed

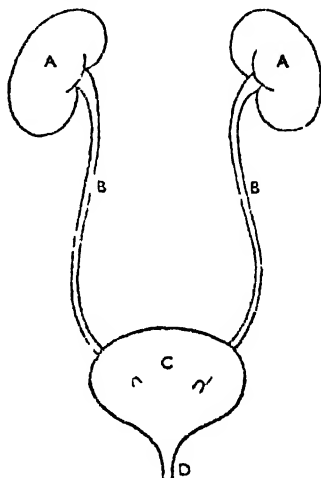


Fig. 1. Structure of the urinary system. A, kidney; B, ureter; C, bladder; D, urethra.

Disease. Complicated by these are the under the heads of abnormal position, number, growth, or cystic disease, and growth. *Hydronephrosis* is due to obstruction of the ureter, leading to the retention of urine in the pelvis of the K. It is usually of importance, but may be a trouble by blocking of the vessels of the hilum of the kidney on other abdominal organs. The main trouble affecting the K. are tubercle, adenoma and sarcoma, they are recognised partly by haematuria (blood in the urine) and general debilitation, and are extremely dangerous, but the K. are not prone to malignant disease. Dieting and rest are essential, medical treatment being of little use and surgical resorted to only in very minor cases. For Bright's disease see NEPHRITIS. Calculi (consisting of uric acid, sometimes of oxalates, and occasionally of phosphates) are frequently found in the pelvic cavity, commencing as minute grains, they become larger by accretion and give rise to renal colic, or such conditions as hydronephrosis, when the passage of urine may be prevented; pyonephritis, the pelvis

of yellow flowers, the stem is a white umbel, the leaves are pinnate, and the floral mechanism is like that of the *Lotus* and the foot of the leaf.

Kidron, or the *Ken*, a brook which for miles flowed through the valley in the valley of the Kidron, the name of Jerusalem in Palestine.

Kidsgrove, in Staffordshire, England, in N. or N.W. side under Lyme. It has coal mines and blast furnaces, and engages in silk processing and the production of a minimum hollow wire. Pop. 15,000.

Kidston, George Pearson Glen (1897-1941), Brit. millionaire, naval lieutenant-commander and an adm. Had an adventurous life, twice during the First World War he was on vessels which were torpedoed. Made the first non-stop flight in Africa, covering 1000 m. from Cairo to Malakal. In Feb. 1931 he broke the England-to-Cape record, landing at Cape Town in 64 days. Killed in a plane crash in Natal.

Kidwelly, or *Cydwell*, bor. and seaport of Carmarthenshire, Wales, on the Owen-draeth, near Carmarthen Bay. It has

tin-smelting and brick works, iron works, and coal-mines. Here are the ruins of an eleventh-century castle. Pop. 3200.

Kieff, *see* KIEV.

Kiel, tn. of the Ger. prov. of Schleswig-Holstein, situated 27 m. S.E. by S. of Schleswig, and, before the two world wars, the chief naval port of Germany in the Baltic. Largely destroyed in the Second World War. Before 1910 there were a royal palace, a univ. (founded in 1665), with some 2400 matriculated students, St. Nicholas's church, of the thirteenth century, and a castle with a sculpture gallery. The harbour has an average depth of 10 ft., a length of 11 m., and a breadth varying from $\frac{1}{2}$ m. at the S. end to 14 m. at the mouth. There were five docks. The forts were destroyed after the first World War, but before the Second World War the Gers. again strongly fortified the base, and there were strongly fortified pens for submarines. Before the Second World War K. had a trade in coal, timber, cereals, fish, butter, and cheese, and manufs. of iron goods, soap, machinery, tobacco, starch, and fish curing; there were also oil works, breweries, and printing works. The Kaiser-Wilhelm (q.v.) or K. Canal has its E. entrance at Wik, $1\frac{1}{2}$ m. to the N. of K. Pop. (1939) 213,900. Traffic in the K. Canal before the war was (1938) vessels, 53,330; net tonnage 22,580,000. Pop. 272,300.

K. was frequently attacked from the air in the Second World War. One of the earliest of the heavier raids was in March 1912. The *Gneisenau* came under heavy air attack in its floating dock at K. in Feb. 1942, and was moved to Gdynia for extensive repairs. There were frequent daylight raids on K. during Nov.-Dec. 1943, the targets including aircraft factories. There were further attacks in 1912, 1913, and 1914. In July the allied assault on communications involved massive attacks on K. and Bremen and other great ports, the attacks being integrated with both the offensive on the W. front and with the Russian advance. K. in that month and Aug. was repeatedly the target for attacks in which fire bombs were used in a vast and ever-increasing quantity. K. was one of the objectives of the Twenty-first Army group of F.-M. Montgomery in the closing stages of the war after the Allies had reached the Elbe. Montgomery's task was first to secure Hamburg, and then advance with the utmost speed on the general area of Kiel-Lubeck and liberate Denmark, using, if necessary, an airborne assault to force the K. Canal, and allied naval and air forces were to assist in the operations. The Brit. Second Army encountered persistent opposition in its attacks towards Bremen and Hamburg, but following the fall of Bremen (April 28) the situation changed; Hamburg having surrendered on May 3, the Gers. were sealed off in Denmark, and, with the junction of the allied fronts, all resistance in N. Germany ceased.

Kielce, or Kielazy. 1. Prov. of Poland, separated from Galicia by the Vistula. Area 3897 sq. m. It has valuable deposits of minerals, including coal, iron, copper,

lead, zinc, sulphur, etc. The inhab. are chiefly engaged in agriculture; and potatoes, vegetables, and grain are exported. There are flour mills, tanneries, and potteries; and machinery, paper, glass, leather goods, and metal objects are manufactured. Pop. 2,900,000. 2. The cap. of the above gov., 85 m. N.E. of Cracow. Its chief industries in 1939 were manufs. of rope, bricks, and dyes. Taken by the Gers. in the 1939 invasion of Poland. Captured by Marshal Konev in 1944. Pop. 58,200. *See* EASTERN FRONT or RUSSO-GERMAN CAMPAIGN IN SECOND WORLD WAR.

Kiepert, Johann Samuel Heinrich (1818-1899). Ger. geographer, b. in Berlin, and educated at the univ. there. His first work, in conjunction with Karl Ritter, *Atlas von Hellas und den hellenischen Kolonien* (1840-46), estab. his reputation as a cartographer of ant. hist. From 1845 to 1852 he acted as director of the geographical institute at Weimar, and in 1854 was appointed prof. of geography at Berlin. He travelled in the E. Mediterranean and the E. His works include *Historisch-geographischer Atlas der alten Welt* (1818); the famous *Atlas antiquus* (1854); *Lehrbuch der alten Geographie* (1857-78); and *Leitfaden der alten Geographie* (1879; Eng. trans. 1881). *See* P. de Chikachyev. *Reisen in Kleinasien und Armenien*, 1847-1863. His son Richard Kiepert (1846-1915), educated at Jena Univ., was also a noted cartographer, his chief individual work being his Special Map of Asia Minor. From 1871 for some years he was occupied in completing Baron von Richtofen's atlas of China (*see* RICHTOFEN, FERDINAND, BARON VON). He also prepared maps from the information given by Heinrich Barth, Mollendorff, and other Ger. travellers. From 1875 to 1887 he was editor of the geographical magazine, *Globus*.

Kierkegaard, Søren Aaby (1813-55). Dan. philosopher, b. at Copenhagen. He graduated in 1840 at the univ. of his native tn., and then travelled for two years in Germany. His first pub., *Papers of a Still Living Man* (1838), on Hans Andersen, received little notice, but his *Either-Or* (Elther—Or), pub. in 1843, made his reputation as a great thinker. He also wrote *Stadier paa Livets Vej* (Stadia on Life's Way) in 1845, and many other works. In these he examined the fundamental principles of Christianity and discussed aesthetic ideas for the rules of life. In later life he vigorously attacked the practices of the Dan. National Church. K. is numbered among the Christian existentialists, but, unlike Gabriel Marcel (q.v.), does not aspire to a systematic unity of thought. He tells us that from his earliest years he was initiated into a sombre and bitter version of Christianity and that, in view of the pastoral career he at first meant to embark on, he deeply examined the doctrine of the Protestant religion. As a student of theology he was hardly conscientious, leading the easy life of a privileged person, intent on counteracting the wretched, confined years of his childhood and therefore frequenting the theatres and cafés, drinking and incurring debt and

realising at the end of it that he 'wanted to shoot himself' (*The Journal*). But he left this 'way of perdition' on May 19, 1838, a conversion which brought him moments of joy as extreme as his moments of mental anguish, whose excess tended to disturb his mental balance. It is not easy to deduce any system from his vrolliche wriflings, even existentialism. God, he concludes, is above moral categories; and this he finds to be true of exceptional individuals, for whom the general rules of morality are no longer valid. These opinions would seem to ally his thought to an essential thesis of the existentialism of Sartre, as also his opinion that subjectivity is truth not only in the sense in which 'I do not know truth except when it becomes life in me, but in a genuinely relativist sense.' In other words, 'consciousness creates out of itself what is true'—essentially part of the existentialist philosophy (see Paul Foulquie, *Existentialism*, 1917). A collected ed. of his works was pub. in 1901. See F. J. Brecht, *Die Kierkegaardforschung im letzten Jahrzehnt*, 1931; E. L. Allen, *Kierkegaard: his Life and Thought*, 1935; W. Lourie, *A Short Life of Kierkegaard*, 1913; T. Haeccker, *Kierkegaard the Cripple*, 1948 (trans. by C. van O. Brugh); T. H. Croxall, *Kierkegaard Studies*, 1918; and D. Patrick, *Pascal and Kierkegaard*, 1948; also lives by G. Brandes, 1877; H. Hødding, 1896; C. P. Mourad, 1909; A. Glig, 1926; and F. A. Voigt, 1924; and his own autobiographical sketch, *Sompunkt for min Forfattererikshand* (1859, Standpoint of my Literary Work).

Kieselguhr (Diatomaceous Earth, Tripolite, Guhr). Naturally occurring deposit composed largely of the siliceous remains of small plants known as diatoms. Usually contains 70-80 per cent of SiO_2 , together with some organic matter, water, and oxides of metals like iron and aluminium in small quantities. K. is a bad conductor of heat, has a low density, and above all is capable of absorbing liquid such as nitroglycerin (see DYNAMITE), petroleum, and acids. For the manufacture of dynamite, K. is now replaced in the U.S.A. by sawdust.

Kiev, or Kieff: 1. Formerly a gov. of S.W. Russia, now a Region of the Ukrainian S.S.R., with an area of 19,676 sq. m. The country to the W. is in the form of a plateau, reaching to over 1000 ft., while in the E. lies the valley of the Dnieper. Much of the land is 'black earth,' and is cultivated, the chief products of the soil being beetroot, wheat, oats, barley, tobacco, flax, vegetables, etc. The minerals include labradorites, iron, lignite, granite, gabbro, marble, and gneiss. There were (1938) many large factories, the chief being distilleries, machinery shops, tanneries, petroleum refineries, papermills, brick works and tobacco factories. There are a large number of Jews and Rom. Catholics. Pop. 1,600,000. 2. Russian city, third largest and most important of the country, cap. of the above region, and of the Ukraine, situated on the r. b. of the Dnieper, 628 m. S.W. of Moscow. It is a beautiful fn., the old quarter being built

on a range of hills overlooking the low country across the riv. It is advantageously situated, for an ls. in the Dnieper provides a crossing that centuries ago caused a number of routes from E. and W. to converge on the city. A further advantage is that the wide flood plain due to the low E. bank and stretching 7 m. across immediately N. and S. of the city, narrows to a mile just opposite K. When the railways were built across the steppe in the nineteenth century, another ls. in midstream just below the city, together with a break in the formidable W. bank cliff, created by a small local stream, the Lioc, offered the obvious opening westwards for the main line from Poltava. The K. railway crossing is a vital bottleneck, for on the E. bank of the Dnieper the three lines from Poltava, Nezhin and Chernigov converge and then, after passing through the Libet valley, in which the city's main and suburban stations are all situated, the line forks again on reaching the open country. K.'s natural beauty deceives to-day, for even the ruins left by the Second World War seem to compose themselves on the folds and cliffs above the broad riv., and the city's parks and avenues of chestnut and poplar mitigate much of the devastation. K.'s prin. architectural monuments, with the exception of the Puspenski church in the Lavra, have survived, but one-third of K. was rendered uninhabitable by the bombardments and 'scorched earth' tactics. The entire centre of the city was destroyed in 1941-43 as ruthlessly as were parts of Warsaw. The city's largest factory lost nine-tenths of its buildings. The cathedral of St. Sophia, the oldest in Russia, is renowned for its golden cupola. The church of St. Andrew the Apostle records the traditional spot where the apostle stood when he prophesied the existence and future prosperity of this city. The Kiev-Pecherskaya monastery, said to date from the ninth century, was formerly visited by 250,000 pilgrims annually. The Podol ls. the city's industrial quarter. Its univ. monasteries, and other anc. buildg., have been mostly converted into soviet public buildings. There is an ann. fair held since 1717. Although K. has expanded into a great modern manufacturing city concerned mainly with light industries—food and clothing—it is still possible to identify the three original settlements from which it has grown. The first was the defensive site of the grand dukes on the top of the 300-ft. cliff flanked by steep-sided ravines cut into the high ground by W. bank tribs. and protected on the W. by the marshy valley of the Lioc. Here was built the ducal palace, and the settlement that grew up around it was walled with granite boulders gathered further upstream. This has for long been known as the Old Town. Underneath the cliff at this point a patch of low-lying ground offered a suitable site for the merchants' quarter, for there was a disused channel here which made a good anchorage opposite the confluence of the Desna with the Dnieper—the Desna, a l.-b. trib. of the Dnieper, is an important

local highway, passing from K. to the N.E. through a pleasant and fruitful countryside. This second settlement is the Podol of to-day. The third settlement was of a very different character and developed some miles downstream. Here, on the cliff top, a cave was occupied by a monk named St. Anthony. The surrounding land was eventually conveyed to the Church by the grand duke of K. and here arose the great Lavra monastery, which, as noted above, was annually visited by 250,000 (Gk. Orthodox pilgrims (before 1914). The monastery is still rather remote from the city itself, but Peter the Great fortified the locality and settled a great Russian pop. there. The name Petchersk, by which this locality is known means 'cave.' A Christian city under Vladimir the Great (A.D. 980-1015). K. was the cap. of Russia from 865 to 1216. K. has never, previously to 1911, played a part as a fortress since the earliest days of Russian hi-., when the spacious Dnieper, with its towering W. bank, opposed a strong barrier to the invading nomads from Asia. The Lithuanian conquest of K. was so easy that hardly any record of it remains. Lithuania later passed by a marriage settlement to Poland. K. was restored to Russia in 1667.

During the First World War the city was successively occupied by Gers., Bolsheviks, Royalists, and Poles. After that war, a number of handsome new administrative buildings were erected, marking K. as the cap. of the Ukrainian republic. In the Ger. invasion of the Ukraine in 1941 the battle of K. was brought to an end, after some seven weeks' fighting, about Sept. 21 when the Russians evacuated the city. In 1913, however, exactly two years later, the Russians had begun to recover the Ukraine and their spearheads had soon driven beyond K. and Poltava. The Gers. were overwhelmed on Sept. 15 when they tried to make a stand at Nezhin and thus lost a key bastion protecting K. On Sept. 18 the Russians, by taking Pryatin, Lubny, and Chernikov, opened the way to the Dnieper between K. and Gomel. Kremenchug fell, and on Sept. 29, after a fierce three-day battle, Russian forces were sweeping down on the Dnieper at K. They then captured a fortified is. in the riv. immediately before the city, and next day their pressure on the bridge-head, which the Gers. still held on the E. bank, carried them into the riv. suburbs of K. itself. The Russians then massed their forces for a direct attack on the great city. There was yet, however, a long struggle before them. In Oct. the Russians broke the Dnieper line and swept beyond K. For weeks a most tense situation continued in the area round the city after the Russians had shifted their main efforts from the Dnieper bend to K. itself. A sudden and powerful blow was delivered by Vatutin (a.g.), commander of the First Ukrainian Army, who timed his blow at the moment when stiffening Ger. resistance at Krivoy Rog and Nikopol had brought the Russian advance within the

Dnieper bend to a temporary halt, and it seems evident that the Gers. did not expect a serious Russian attack at this stage, especially as their garrison in K. consisted of at least twelve infantry and two tank divisions. Vatutin launched his offensive on Nov. 4 and sent a strong column down to the W. of the city to threaten it from the rear and to cut the railway leading to Korosten; while at the same time he sent an armoured spearhead across the highway to Zhitomir so as to block a major escape route from K. Thus threatened with encirclement the Gers. at K. hastily withdrew to avoid the trap and the Russians entered the city on Nov. 6 (1913). Pop. 846,293 (1939). See Minkolov, *Geographie du gouvernement de Kiev*, 1883; De Bave, *Kiev, la mère des villes russes*, 1896; W. E. D. Allen, *The Ukraine: a History*, 1940; and G. Vernadsky, *Kievan Russia*, 1948.

Kikuyu: 1. Dist. of the central Prov., Kenya Colony. Cap. Nyeri. It contains the int. of *keuva* (q.v.). Also the name of a tn. on the Kenya-Uganda railway, about 20 m. W. of Nairobi, in the K. prov., standing at an altitude of 7000 ft. on the main N. road. There is a Presbyterian mission station. The surroundings are much cultivated, sweet potatoes, maize, millet, beans, and wattle predominating. There is a fine view of Nairobi in the far distance, 2000 ft. below. A mile away is the Alliance High School for natives erected in memory of Africans who lost their lives in E. Africa in the First World War. 2. Name of an important Bantu people of Kenya. They have no centralised political organisation, but the elders of the clans exercise some authority over the members of their own group, while acknowledging no common allegiance to a single head. As in many other Bantu tribes initiation ceremonies take place for admission to adult membership, male or female, of the tribe, the men's age-grade being used formerly as the basis of military organisation or of political authority, though to-day of importance only for the latter purpose. They are an agric. people as well as pastoral, cultivating mainly cash crops like groundnuts, and tea, and also maize for food and wattle bark for huts. Many work as tenant labourers or squatters for European farmers in the highland area. In some of the Kenya reserves of natives the density of pop. and the progress made in growing cash crops has produced marked effects on the traditional land tenure system, notably by the introduction of the unaccustomed practice of selling holdings and pledging and mortgaging land to obtain cattle and sheep for the payment of bride price, or rans for sacrificial purposes, or cash to pay fines or taxes. In this way the small holding is becoming the unit of tenure in place of the *githaka* system (by which families acquired rights, by possession, in land over which control was not exercised by the clan authority, the usufruct being divisible subject to the supervision of the *muramati* or warden of the group of families). The excessive growing pop. of goats, which are harmful to vegetation

and, in such areas as the rich K. reserve, of negligible economic value, is a problem which still awaits solution as also the problem of soil erosion through ill-advised husbandry and cattle grazing. Magic and witchcraft still play a part in the social organisation of the K. Primary and secondary education are given in the gov. K. school, Central Prov. Housing by the K. shows a rising standard, especially in the Klamhu dist., where the traditional thatched bee-hive hut of mud and wattle is being widely replaced by improved structures of local material and sometimes of local stone. See W. S. and K. Routledge, *With a Prehistoric People*, 1910; C. W. Hobley, *Bantu Beliefs and Magic*, 1922; G. St. J. Orde Browne, *The Vanishing Tribes of Kenya*, 1925 (deals with the minor tribes of the K. dist.); *Report of the Kenya Land Commission*, Cmd. 4536, 1931; Lord Hailey, *An African Survey*, 1933; and C. K. Meek, *Land Law and Custom in the Colonies*, 1946.

Kilauea, Mt., see under HAWAIIAN ISLANDS.

Kilbarchan, tn. in Renfrewshire, Scotland, 5½ m. W. of Paisley. It has calico-printing and paper-making industries, and is noted for its hand-woven tartans. Pop. 7500.

Kilbirnie, or Kilburnie, tn. in Ayrshire, Scotland, 17 m. W.S.W. of Glasgow. Its chief industries are chemical, iron and steel works, cotton and linen manufs. and mining. Pop. 5200.

Kilbowie, see CLYDEBANK.

Kilbride, 1. East, vii. and par. of Lanarkshire, Scotland, 6 m. S. of Glasgow. It has coal-mines. Pop. 5300. 2. West, vii. and par. of Ayrshire, Scotland, 4 m. N.N.W. of Ardrossan. Pop. 5000.

Kilburn, suburb of London in the bor. of Hampstead, 3 m. N.W. of St. Paul's Cathedral. Pop. 101,000.

Kilchumia, see FORG ARDUSSES.

Kildare, 1. Co. in Eire, situated in the prov. of Leinster. It is bounded on the E. by Dublin and Wicklow. It contains an extensive plain, part of which forms the Allen Bog. Its prin. rvs. are the Boyne, Liffey, Barrow, and Lesser Barrow. The dist. of Curragh in the centre of the co. is most fertile and affords excellent pasturage. Potatoes, oats, and barley are very extensively cultivated. Area 654 sq. m. Pop. 61,500. 2. Chief city and mkt. tn. of K.: possesses many objects of historic interest, such as the anc. cross, small chapel, and round tower. Pop. 2100.

Kilia, or Kilanova, tn. in the Moldavia S.S.R. It is 100 m. S.W. of Odessa, on the N. or Kilian mouth of the Danube. Pop. 12,000.

Kilian, or Chilian, St. (fl. A.D. 700). Irish missionary bishop and apoc. of Franconia, who preached to the heathen of Wurzburg, and was put to death by Duke Gozbert. His festival falls on July 8. See J. O'Hanlon, *Lives of Irish Saints*, 1876-1904 (vol. vii.).

Kilid Bahr, fortress on the W. shore of the Dardanelles, razed after the First World War. With Chanak fort on the E. shore, it commanded the channel, and constituted the cardinal defences of the

Dardanelles. Equipped with Ger. 14-in. Krupp guns, it proved an insuperable obstacle to the allied fleet, especially as the fort was supposed to have been dismantled. See further under DARDANELLES.

Kilimane, see QUILMANE.

Kilima-Njaro, mt. mass in the N. of Tanganyika Ter., situated between Lake Victoria and the coast. The highest mt. in Africa, it culminates in two peaks, Kibo (19,321 ft.) and Mawenzi (16,892 ft.), which are both craters of extinct volcanoes. The crater of the former is 6500 ft. in diameter, and 650 ft. deep. The mt. was first climbed in 1839 by Dr. Meyer; the ascent was first made by Englishmen when Mason and Gillman climbed Kibo in 1921. Mrs. Lathoin followed in 1925. Moshi, to the S.E., is the nearest settlement, and the first part of the ascent from there is easy, through bush and some cultivated land—coffee is grown on the S.W. slopes. From 6000 to 10,000 ft. is the forest belt, some 5 to 7 m. wide; grasslands extend about 3000 ft. above that, and then there are glaciers and snow, descending, owing to warm air-currents, much lower on the S.W. than on the N. There is a native irrigation system on Mt. K. and although it is primitive the distribution is regulated by long-estab. law and custom. The Chaga tribe have important coffee plantations on Mount K. In which the terracing system, to counteract soil erosion, is practised. Tanganyika is remarkable for the Native Co-operative Union, which unites the primary societies of the Chaga tribe on Mt. K., supplies them with requirements for their coffee plantations, and markets their crops. In 1922 a K. Native Planters' Association was founded, but this association had to be reorganised in 1931 and registered as the Native Co-operative Union, which was more successful. There are also some European maize plantations on the slopes of Mt. K. See Sir H. Johnston, *An Expedition to Kilimanjaro*, 1893; and C. D. Las, *Kilimanjaro and its People*, 1924.

Kilivaga, see KENTA, MOUNT.

Kilkenny, 1. Co. in Leinster, Eire, is bounded N. by Lax. co., E. by Carlow co. and Wexford co.; S. by Waterford co., and W. by Tipperary. Its chief rvs. are the Suir, Barrow, and Nore, which rise in the Slieve Bloom Mts., and flow into Waterford Harbour. Anthracite coal is obtained from the Castlerea basin. The climate is agreeable and mild. Cattle trading is carried on, and potatoes and turnips are largely cultivated. Area 796 sq. m. Pop. 66,681. 2. The cap., on the R. Nore, is divided into two dists., Eng. tn. and Irish tn. The cathedral of St. Canice dates back to 1255, and is built partly in Early Eng. style. The ruins of a Dominican and of a Franciscan monastery still exist, also the Protestant College of St. John, where Swift and Bishop Berkeley received part of their education. Pop. 10,300. See C. P. Moehan, *Confederation of Kilkenny*, 1905.

Killala, small tn. in co. Mayo, Eire, which dates back to the fifth century.

Killaloe, tn. in co. Clare, Eire, on the R. Shannon, 17 in. from Limerick. It was the cap. of the kings of Munster. Pop. 900.

Killarney, mrkt. tn. and favourite resort for tourists, situated in the co. of Kerry, Eire. The lakes of K are 14 m. from the tn. and are shut in by wood-crowned mts. The lower lake, called Lough Leane, is dotted about with wooded is., the most important one being named Ross Is.; another isle contains the beautiful ruins of the abbey founded by St. Finian the leper. Muckross Abbey, which was built by the Franciscans about 1440, divides the lower lake from the middle or Torc lake. The upper lake connects the middle and lower lakes

including some of his own compositions. His works were collected and pub. in 1664. See A. Harbage, *Thomas Killigrew, Cavalier Dramatist*, 1930.

Killigrew, Sir William (1607-95), Eng. playwright, the eldest son of Sir Robert K. He was gentleman-usher to Charles I. and had command of a troop which guarded the king's person during the Civil war. He pub. *Three Plays*, viz. *Selindia*, *Pandora*, *Ormusdes* (1663), and various pamphlets concerned with the unsuccessful attempts to drain the Lincolnshire fens (1647-61).

Killingly, tn. in Windham co. Connecticut, U.S.A., 36 m. from New London. Pop. 9000.

Killingworth, tn. in Northumberland,



UPPER LAKE, KILLARNEY

Irish Railways

by means of the Long Range, a channel 2½ m. long. Places of especial beauty and historic interest are the Macgillivuddy Reeks, the Torc and Purple Mts., and the famous gap of Dunloe. The Innisfallen ruins, Muckross Castle, and Aghado church are other noteworthy features. Pop. 5900. See M. Gorges, *Killarney*, 1912, and J. C. Coleman, *The Mountains of Killarney*, 1918.

Killiecrankie, Pass of, in Perthshire, Scotland, in the valley of the Garry, extends from K. station 1½ m. to Garry Bridge. On the plain at the top of the pass Viscount Dundee, defeated the troops of William III., under Mackay, in 1689, and received his death wound.

Killigrew, Thomas (1612-83), Eng. dramatist, the son of Sir Robert K., vice-chamberlain to Queen Henrietta Maria, was pavo to Charles I. in 1633. His play, *The Parson's Wedding*, was popular before the Civil war, after the outbreak of which he resided abroad with the Eng. court. At the Restoration he returned and was appointed by Charles II. groom of the bedchamber. He built a theatre where Drury Lane Theatre now stands, and there produced many plays,

6 m. N.N.E. of Newcastle. Has coal mines. Pop. 12,000.

Killiz, Kulis, or Kills, tn. of Syria on the Turkish frontier, 34 m. from Aleppo. It is noted for its olive groves, which produce very fine oil. Pop. 20,000.

Killyleagh, seaport on Strangford Lough, co. Down, N. Ireland. There is an export of agric. produce, and the prin. industry is the manuf. of linen. K. Castle is in the vicinity. Pop. 1600.

Kilmarnock, W. suburb of Dublin, Eire. It contains the co. jail in which Parnell, O'Brien, and other political prisoners were held, and a military hospital. Pop. 11,000.

Kilmarnock, municipal burgh in Ayrshire, Scotland, is situated on Kilmarnock Water, a trib. of the Irvine, and lies 24 m. S.W. of Glasgow. The Burns Memorial, a museum in Kay Park, contains sev. MSS. of the poet. K. is noted for its woollen manuf., and also for the manuf. of lace, carpets, boots and shoes, china and earthenware. There are important engineering and machinery works, and the Brit. Railways have workshops here. Pop. 41,000.

Killoat, see KILWA KISIWANI.

Kilogram, metric measure of weight, equal to 1000 grammes or approximately 2·2046 lb. 1000 Ks. equal 1 metric ton, or 2204·6 lb. See METRIC SYSTEM.

Kilometre, see METRIC SYSTEM.

Kilowatt, measure of electrical power equal to 1000 watts. The unit of electric power is the watt, or 1 joule (see JOULE, JAMES PRESCOTT) (107 ergs) per second. The relationship between the volt, the ampère, and the watt is as follows: volts \times ampères = watts. A K.-hour is the amount of energy used in 1 hr., at the rate of 1 K.; it is the ordinary unit of electrical power companies.

Kilpatrick, New or East, see BEARDSDEN.

Kilpatrick, Old or West, tn. in Scotland on the R. Clyde, 10½ m. N.W. of Glasgow. It is supposed to have been the bp. of St. Patrick, and is also interesting for its Roman remains (the wall of Antonine).

Kilrush, seaport on the estuary of the R. Shannon, co. Clare, Eire. It is noted for its fisheries and limestone quarries, and there is also considerable trade in grain and timber, as well as an export of peat kelp, hay, and stone. There is a good harbour. Pop. 3300.

Kilsyth, tn. of Stirlingshire in Scotland, 13 m. distant from Glasgow. Coal mining and iron works are the chief industries. Wm. Chalmers Burns inaugurated a remarkable religious revival here in 1839. Scene of a battle between Montrose and the Covenanters in Aug. 1645; the former's victory gained him temporary domination of Scotland. Pop. 9000.

Kilt, see HIGHLAND DRESS.

Kilwa, or **Kilwa Kivinye**, tn. of Tanganyika, lying near the Malindi R. It has an emergency landing-place for aeroplanes. The valley supplies the natural approach to the highlands lying behind the port. Vessels must anchor 2½ m. off shore. Cotton, maize, millet, and sisim are grown in the vicinity. Roads connect the port with Liwale (139 m.) and Utefe (97 m. N.W. of the Rufiji R.). To the S. runs a road to Lindi (97 m.) (200 m.) and to Mikindini (260 m.). Pop. 3000.

Kilwa Kisiwani, is. and tn. of Tanganyika; formerly known to the Portuguese as Quiloa and to the Arabs as Kilout, it was a very important Arab trading station, with a fine harbour from which a well-defined track leads to Manda on Lake Nyasa. The old tn. was founded by Prince Shiraz, a Persian, in 987, and many ruins show the importance of the settlement. Ibn Batuta, writing in 1331, called it 'the most nobly built city on earth'. The is. and tn. of K. K. were captured by Portuguese in 1505 and subsequently changed hands sev. times. The native pop. on the mainland is fairly dense in the coastal dists., cultivating rice, mealies, sorghum, arca, sugar, and tobacco.

Kilwinning, municipal burgh of Ayrshire in Scotland, situated on the E. b. of the Garnock, and about 25 m. S.W. of Glasgow. The tn. derives its name from St. Winnin, who lived there in the eighth century. A famous abbey was raised to his memory by Hugh de Morville in 1140. Pop. 5500.

Kimawenzi; see under KILIMA-NJARO.

Kimberley, John Wodehouse, first Earl of (1826-1902), Eng. statesman was b. at Wymondham, Norfolk. Adopting the Whig politics, he held office in Lord Palmerston's first and second govts., and was Brit. minister at St. Petersburg, 1856, and under-secretary for India, 1864, becoming lord-lieutenant of Ireland the same year, and in consequence of the work of pacification which he accomplished while holding that office was created earl of K. In 1868 he was lord privy seal in Gladstone's first administration, and in 1870 succeeded Granville at the Colonial Office. It was during his tenure of this post that the grant of complete self-government was given to the Boers, after the defeat and death of Sir George Colley at Majuba Hill, 1881. In 1882 he was transferred to the India Office, and in 1891 was leader of the Liberal party in the House of Lords.

Kimberley: 1. Cap. and chief commercial centre for the Northern Cape, S. Africa, the most important diamond mining centre of that country. The tn. (situated 4012 ft. above sea level) is built round about the mining camps, which are scattered. K. is the chief diamond centre of the world; the industry has been placed on a sound basis and at present (1919) three mines are in production. It is also the centre of the largest cattle-ranching area in the country. Diamonds were first discovered by diggers on the farms of Du Toit's Pim and Bultfontein in 1870 (see also HOPETOWN). Further discoveries of diamonds were made in 1871 at de Beers and Colesberg Kopje. Ultimately the mines were placed under Brit. control, when the whole diamond market became vested in one company, the de Beers Consolidated Mines Limited. The diamond industry was badly hit by the First World War and even more by the slump that followed, the mines at one period being actually closed down. The K. (Diamond) Mine, as it was once named, has now for sixty years been empty of men, and all the machinery taken away; it is known to-day as 'the Big Hole', and lies just off one of the main streets. Afterwards miners sank workings underneath the hole to a depth of 3600 ft. Diamonds have been found in all sort of places in K. - in old mine dumps, in back yards, and even in the streets at times; but the finest are those which de Beers are able to show the visitor to the city, a collection worth £1,000,000. But the K. of to-day is not the K. of yesterday, for between the wars the city experienced such fluctuations of fortune that many forsook diamonds for the gold of the Rand. Other notable features of K., besides diamonds, are the fine, park-like gardens of Alexanderfontein; the MacGregor museum, where there are some fine models of famous diamonds; some memorial carns and crosses recalling the Anglo-Boer war; the Honoured Dead memorial to those who fell in the defence of K. during the siege in the S. African war; and the Duggan-Cronin-Bantu gallery, housing a collection of photographs of all the native tribes of S. Africa.

K. holds an important position owing to its situation. Railway communication has

long been opened up with K. between Cape Town and Johannesburg, the tn. is the point of departure for travellers making their way into the interior. The climate is salubrious and the soil is fertile, the tn. being provided with a good water supply from the R. Vaal. The mining of base metals and minerals in the area is becoming an increasingly important factor in the economic structure of S. Africa. Manganese, iron ore, blue asbestos, gypsum and salt are some of the minerals being produced on an increasing scale. The construction of very large irrigation schemes in the region in recent years has made this one of the chief food production areas in the country. Large quantities of beef mutton wheat maize ground nuts butter cheese fruit and vegetables are produced.

The (city council) has embarked on an extensive town planning scheme. The older parts of the city, reflecting its modelled and construction has commenced on the new civic centre which includes a new technical college, art gallery, new law courts and government offices and a new city hall. Provision has been made for facilities for secondary industry. Established industries include textile clothing and furniture factories, joinery and engineering works, cheese mineral water yeast, cement and botanical factories. The tn. underwent a siege during the Boer war 1899-1900 which was relieved by Gen. Sir John French. Pop. (whites) 19,000. See G. F. Williams *The Diamond Mines of South Africa*. A. E. Williams *Son's Dreams come True*. G. Set *The Grand Old Days of the Diamond Fields*. A. Chivers *Story of de Beers*. 2. Gold field in the K. dist., Australia, 100 m S.E. of Perth.

Kimbri, see **CIMBRI**

Kimshi, David (c. 1160-1200), Jewish commentator b. at Narbonne in France, where he spent his life. His great work was his *Sefer Mikhal* which consists of two parts, the *Mikhal*, or grammar, and the *Sefer Haashorashim* or lexicon. He also wrote commentaries on portions of the Scriptures of which his commentary on the prophets is the best though that on the Psalms is interesting. In his time rests upon his grammar and lexicon which have been the basis of all subsequent Hebrew grammars and lexicons. See J. Linkelstein *The Commentary of David Kimshi on Isaiah* 11.

Kimmeridge Clav, in geology the lower series of the Upper Oolites. The upper part of the formation consists of dark blue bituminous shales, and the lower part of clays and shales in which calcareous concretions are found. The clay takes its name from the vil. of Kimmeridge in Dorsetshire; it is to be seen continued from the Dorset coast into Wiltshire, and thence along the Jurassic outcrop into Yorkshire. The economic products of the formation include the Kimmeridge coal, really a highly bituminous shale, alum, and clay for the making of bricks, tiles, etc. Fossils are abundant in both series of the formation, including remains of dinosaurs, plesiosaurs, and ichthyosaurs.

Kimpolung, or Campo Lung, tn. of Bukovina, Rumania, on the Moldavia situated about 75 m S.W. of Czernowitz (Cernauti). It is a health resort. Pop. 7500.

Kin, Next of, or nearest of consanguinity in the same degree of relationship are those among whom is distributed the personal property of a person who dies wholly or partially intestate as to that property. As a general rule the right to take out administration to the personal effects of an intestate follows the beneficial right to the property. Since the Administration of Estates Act 1925, the devolution of real property is governed in that of personalty. (For the order in which the representatives take effect see **SUCCESSION**.) If a husband has the exclusive right to take out letters of administration to his wife's estate and if he dies without doing so, the wife's next of kin may take out administration, but they will hold the beneficial interest in the property for the husband's personal representatives. Where none of the kin can take out administration a creditor is entitled to do so. A gift whether in a deed or will to the 'next of kin' whether *simplex* or *in reference* to the Statutes of Distribution or to intestacy does not in itself vest in or husband. If a phrase 'next of kin' in a deed or kin according to the rules is frequently used in wills under deeds and wills are to be distinguished. The former is strictly confined to the literal meaning of the word but the latter includes those who are a substantial next of kin representative of a testator. See on this **GOODWILL** **Joint Property**. See also **INTESTACY**.

Kincardine, or Pannatane, tn. of Bruce Co., Ontario (Canada) situated on Lake Huron. It has iron foundries and salt works. Pop. 1,000.

Kincardineshire, or The Mearns, maritime co. in the E. of Scotland lying between the Merith N. and the N. Esk in the S. with an area of 518 sq. m. The surface is in a loam, the highest pt. being Mt. Bannockburn, 1,111 ft. in the N. the coast is low, the valleys are fertile and in the north the Mearns which is a continuation of Scotland. The main river is the Ugie which is occupied by a trout stream. But the valleys of the Dever and the Mearns and the coast which is the most fertile part are devoted to low-lying crops principally oats and dry turnips and potatoes. Cattle rearing is also carried on and fishing, especially salmon fishing is actively prosecuted. There is, too, some shipping at Stonehaven. Pop. 29,000.

Kinchau, tn. of Manchuria on the rail way from Mukden to Peking, near the Gulf of Liaotung. It is a transport centre. Pop. 81,000.

Kindergarten comes from the German meaning children's garden, and was the name chosen by Friedrich Froebel for his children's school, where he evolved the best methods, in his opinion for the all-round development of children, whom he thought of as being like young plants need-

ing constant loving care and attention to help them to grow. Inspired by the ideals of Pestalozzi and building on his own experience, Froebel elaborated a system of organized occupations by means of 'gifts' calculated to satisfy the child's inborn love of play and fellowship and at the same time to exercise and develop its sensibilities and healthy activities, and to teach it all unconsciously something of its duties towards God, Nature, and Man. Froebel's 'gifts' as they are called—which were used in this system of education, have long fallen into disuse in this country, as also have most of the occupations which accompanied them, but the underlying principles of Froebel's educational philosophy are still the basic principles in the progressive Ks of to-day. Like the ancients, Froebel was fully alive to the value of rhythm in speech and music. Training in speech and music to gather with movement forms an important part of any child's education in a K to-day, where a child is regarded as a growing person to be respected and studied and where self-activity is the key note of its education. Learning as far as possible is attained through doing wholeheartedly the play and work that is appropriate to the age of the child. This includes the acquisition of techniques and essential skills when the time is ripe for them and after careful previous preparation through a number of varying experiences and different media. The aim of the discipline imposed is the attainment of self-discipline. The acquisition of this is necessarily slow and the child requires not only sympathetic help for its growth, but the right environment where it can exercise its responsibility suitable to its stage of development where it learns to recognize the value of social service, and where co-operation between the home and school is of the first importance. Froebel did not recognize two responsibilities of the teacher who attempted to carry out his ideas, and for this purpose advocated the careful training of these teachers of children. One direct result of this is that to-day in the primary training colleges and in the teachers' colleges. A teacher's diploma and handbook diploma awarded by the National Council for Education. The Ministry of Education recognizes this certificate after three years' training at one of the recognized colleges. A list of all the 110 of these colleges can be obtained from the National Froebel Foundation, 2 Manchester Square, London, W.1. The principles of Ks met with no very wholehearted appreciation in his country, but Germany does not stand alone in rejecting her own products. Flourish best in America. The National Ks Association was founded in 1909 in New York in order to bring the advantages of Ks education to all the nation's children, and in twenty years' time it had secured the estab. of nearly 1400 Ks. See also CHILD STUDY, EDUCATION, FROEBEL, FRIEDRICH, WILHELM AUGUST, MACMILLAN, RACHEL; MONTESORI, MARIA, NURSERY SCHOOLS.

Kinderscout, mt. in Derbyshire, Eng-

land, and the highest point in the Peak dist. Altitude 2084 ft.

Kinderscout Grit, geology, a variety of the millstone grit overlying the carboniferous limestone. It takes its name from Kinder Scout (*q.v.*), a summit of the Peak dist. The formation consists of shales, grits and sandstones, and is coarser and harder than the millstone grits in general. Though not yielding such good building stone as the other sandstones of Derbyshire, it is quarried for such purposes as roadmetalling, etc., where its disadvantages as regards dressing need not be apparent.

Kinematics, branch of the science of mechanics in which the phenomena of motion are considered without reference to any force or mass. It is usually treated as a study preliminary to that of dynamics, and involves only the conceptions of space and time. By making a few simple assumptions it is possible to formulate certain relationships which can afterwards be examined in the light of dynamical knowledge.

The velocity of a point is defined as the rate of change of its displacement. The velocity is said to be uniform if the point traverses equal distances (in the same direction) in equal intervals of time, however small those intervals may be. In such a case the velocity of the point is

given by the equation $v = \frac{s}{t}$ where s is the distance traversed in the time t . In the case of non-uniform velocity we define the velocity at a point as the average velocity over a very short distance enclosing the point, i.e. $v = \frac{ds}{dt}$. Velocity is a vector

quantity, i.e. it has direction as well as magnitude. Speed, a scalar quantity, is defined by magnitude alone. Acceleration is the rate of change of velocity. If a body has an initial velocity of u ft. per sec. and that velocity is increased by a ft. per sec. every second, its velocity at the end of successive seconds will be $u + a$, $u + 2a$, $u + 3a$, etc. The final velocity at the end of any period may be denoted by the relation $v = u + at$ where V = initial velocity in ft. per sec., a = acceleration in ft. per sec. per sec. = $\frac{ft.}{sec.^2}$, the number of velocity units added in per sec., and t = number of seconds. The average velocity during the period, if the acceleration be uniform, may be taken as the velocity at the middle of the period, that is, it will be the mean of the initial and final velocities. Average velocity therefore = $\frac{u+v}{2}$, that is $\frac{V+V+at}{2}$, or, $V + \frac{1}{2}at$.

Now, the length traversed by a body moving with uniformly accelerated velocity would be the same as if it moved uniformly with the average velocity throughout the period. Therefore, we have, in this case, $s = (V + \frac{1}{2}at) \times t$ or $s = Vt + \frac{1}{2}at^2$. Eliminating t between the equations $v = V + at$ and $s = Vt + \frac{1}{2}at^2$, we get a third equation, $v^2 - 2as = V^2$. We now have certain relationships of space and time expressed concisely by formulae, which may be recapitulated thus: for uniform velocity $s = vt$; for uniformly accelerated

velocity, $v = V + ft$, $s = Vt + \frac{1}{2}ft^2$, $v^2 = V^2 + 2fs$. The acceleration of a freely falling body is an example of uniformly accelerated motion, f being 32.2 ft. per sec. per sec. In the case of non-uniformly accelerated motion, the acceleration at a

point is defined as $\frac{\delta v}{\delta t}$, where δv is the increase in velocity in a short interval δt , in the vicinity of the point in question. As in the case of velocity, acceleration is a vector quantity; it is completely specified only when its direction and magnitude are known.

K. also deals with the direction in which motion takes place, and the determination of the resultant of sev. velocities possessed by a particle. All motion, of course, is relative; and it may be the purpose of a problem to determine the motion of a body with reference to a certain body or surface, as, for instance, the surface of the earth.

Kinematograph see CINEMA TOGRAPH.

Kineshma (Kinechma), tn. In the Ivanovo Region in the R.S.F.S.R., on the r. b. of the Volga, 55 m. S.E. of Kostroma. It is a trade centre for the salt, sugar, and grain trades, and is connected by rail with Ivanovo. Pop. 75,300.

Kinetics, branch of the science of mechanics which treats of the action of forces in producing or changing the motion of a body. If the body remains in a position of rest or equilibrium, the consideration of the conditions is a part of *statics*, or the science of equilibrium of forces. This div. of the study of forces into two parts according as they produce motion or equilibrium is an arbitrary one. The laws of statics are merely special cases of the laws of dynamics in which the acceleration and the velocity of the body are zero. It is convenient, however, to treat of certain particular deductions from Newton's laws of motion under the heading of K.

Kinematics (q.v.) treated of motion without regard either to the body moving or to the cause of change of motion. K. introduces the considerations of mass and force. Newton's first law, which may be concisely stated as that change of motion is caused by forces acting upon the body, gives us, therefore, a definition of force. The law may be otherwise stated as 'a material body possesses inertia.' The second law states that the change of motion is proportional to the impressed force and takes place in the direction of that force. By motion is meant momentum, which is measured by the product of the body's mass and its velocity. Force is measured, therefore, by consideration of the mass of the body and the acceleration or change of velocity induced by the force. This gives us the fundamental relationship of K., which may be concisely stated thus: $P = mf$; that is, force = mass \times acceleration. The unit of force is called the *poundal*, and is defined as that force which, acting on a mass of 1 lb. for one second, gives it an additional velocity of 1 ft. per second. Newton's third law of motion states that action

and reaction are equal and opposite, i.e. if a body A exerts a force on a body B, then B simultaneously exerts an equal and opposite force on A. A force may not cause actual motion, but in any case it tends to do so. If the point of application of the force moves in the direction in which the force acts, the force is said to do *work*. Work is measured by the distance through which the point of application moves in the direction in which the force acts, multiplied by the measure of the force. The unit of work is that amount of work done by a force of one poundal by moving its point of application one foot; it is called a foot-poundal. A body may have the capacity of doing work by virtue of the momentum it possesses, or through its position or configuration; it is then said to possess *energy*. Energy possessed by virtue of motion is called *kinetic energy*; that possessed by virtue of the position of a body, as in a weight supported above the ground, or through the position of its parts, as in a coiled watch spring, is called *potential energy*. The work done in bringing a moving particle to rest can be shown to be $\frac{1}{2}mv^2$; this is therefore defined as the kinetic energy of a particle of mass m , moving with a velocity v . If a body whose weight is W is raised through a vertical height h , the work done against the mutual attraction of the earth and the body is Wh . This is the measure of the increase of the potential energy of the body in its new position.

Kinetic Theory, in chem. and physics, assumes that the molecules or ultimate physical particles of a gas are in constant and rapid motion, and that they behave as perfectly elastic objects. On this theory, the laws that describe the behaviour of gases under variations of temp. and pressure, etc., find a satisfactory theoretical explanation. The K. T. in its present form is due to many scientists, notably Joule, Clausius, and Clerk-Maxwell (about the middle of the nineteenth century).

Kinotoscope, see CINEMA TOGRAPH.

King, Charles (1687-1748), Eng. composer of church music, b. at Bury St. Edmunds, was for the most of his life connected with the choir of St. Paul's. His music is of no remarkable interest, but his services in F and C, and a few of his anthems, are still occasionally performed.

King, Edward (1829-1910), Bishop of Lincoln, educated at a private school, whence he passed to Oriel College, Oxford. He was ordained deacon in 1851, priest in 1855, and in 1863 became principal of Cuddesdon Theological College, where he exercised an enormous influence over the ordinands studying under him. In 1873 he became prof. of pastoral theology at Oxford, and in 1885 passed to the bishopric of Lincoln. Here he speedily became as great a force as he had been elsewhere, and his work continued tranquilly, except for the stir caused by a fruitless attempt by the Church Association to secure his condemnation for the use of certain ceremonial. See B. W. Randolph and

J. W. Townroe, *The Mind and Work of Bishop King*, 1918.

King, Henry (1591-1669), bishop of Chichester, and poet, educated at Westminster School and Christ Church, Oxford. In the year that he was made bishop of Chichester (1612) he was taken prisoner by the parl. army, but was later released. He was a personal friend of Charles I. He pub. a metrical trans. of the Psalter (1651) and some poetry. In one of his poems he makes a reference to *Eikon Basilike* as the work of the king. He was restored to his benefice at the Restoration, and he d. at Chichester. He was one of the executors of John Donne.

King, Peter, first Baron (1669-1734), Eng. lawyer and Whig politician, a relative of J. Locke (q.v.). He became recorder of London, and was knighted (1708), Baron King of Ockham, and Lord Chancellor (1725-33). He wrote two theological works, *An Enquiry into the Constitution of the Primitive Church* (1691), and *History of the Apostles' Creed with Observations* (1702). See J. C. Campbell, *Selections from Speeches of Lord King*, 1842; W. N. Wellsby, *Lives of Eminent English Judges*, 1846; and E. Foss, *The Judges of England*, 1848-64.

King, Sir Richard (1730-1806), Eng. admiral, b. at Gosport. He entered the navy in 1736, and having served in the Mediterranean and E. Indies, was promoted to be lieutenant in 1746. In 1756 he was in command of the landing party at the capture of Calcutta and Hugh, and distinguished himself in 1762 in the action off Sadras, after which he was knighted. In 1747 he was promoted to be rear-admiral, in 1792 was created a baronet and appointed governor and commander-in-chief at Newfoundland, and in 1795 was made admiral.

King, William (1663-1712), learned Eng. satirical and miscellaneous writer and poet, supporter of the Tory and High Church party. From 1701 to 1708 he held various offices in Ireland. His works include *Animadversions upon the Pretended Account of Denmark* (1694, in answer to R. Molesworth's pamphlet), *Dialogues of the Dead, Relating to the Present Controversy concerning the Epistles of Phalaris* (1699, satirising Bentley); *A Journey to London in the Year 1698* (1699); *The Transactioneer, with some of his Philosophical Fancies, in Two Dialogues* (1700, a satire on the Royal Society); and *Vindication of Dr. Sacheverell* (1711). See J. Brown (editor), *Remains of the Late Learned and Ingenious Doctor William King*, 1732; J. Nichols (editor), *The Original Works of William King*, 1776, and S. Johnson, *Lives of the Poets*, 1781.

King, William Lyon Mackenzie (b. 1874), Canadian Liberal statesman, b. at Berlin (now Kitchener), Ontario, eldest son of John K., Q.C., and grandson of Wm. Lyon Mackenzie, the famous political reformer and rebel. Graduated at Univ. of Toronto 1895, fellow in political economy, Chicago Univ., 1896-97; Harvard, 1897-1900. Became deputy minister of labour for Canada and editor of *Labour Gazette*, 1900; chairman of sev. royal commissions

on labour and immigration problems. Represented Canada in negotiations with Great Britain regarding immigration, 1906 and 1908. In latter year entered Dominion Parliament as member for N. Waterloo, Ontario. Beaten in Liberal overthrow of 1911, did not re-enter Parliament for eight years. Elected for Prince, Prince Edward Is. 1919; in Aug. of that year, chosen to succeed Laurier as Liberal leader. In 1921, when he was elected for New York, Ontario, he became Premier in succession to A. Meighen. In 1925 general



Nations from boards Canada

WILLIAM LYON MACKENZIE KING

election he lost his seat. When he returned to Parliament as member for Prince Albert-Saskatchewan, his advice to the governor-general to dissolve was rejected, and he resigned. Mr. Meighen tendered the same advice, which was then accepted, and the Liberals won the election, 1926. He remained Premier four years longer. He attended the Imperial conferences of 1923 and 1926, represented Canada at signing of renunciation of war (Paris, 1928), and also as member of Council and vice-president of Assembly of League of Nations 1928. In July 1930 the elections went against him, and he was succeeded by R. B. Bennett. In 1935 his party won the most sweeping victory in the hist. of Canadian politics—winning 174 seats out of 250. He thus became Prime Minister for the third time in his career. In the same year he concluded a commercial treaty with the U.S.A. He attended the coronation of King George VI. and Queen Elizabeth, 1937. When Britain declared war on Germany in 1939, K., by postponing

Canada's declaration for a week, in effect affirmed Canada's complete independence in foreign affairs. When his Conservative opponents criticised Canada's war effort as inadequate, he sought re-election and gained it decisively—the real issue being conscription, which he consistently opposed. In Aug., 1940, he negotiated with President Roosevelt the setting up of a permanent Joint Defence Committee for the defence of the W. hemisphere. Between Dec. 29, 1921 and Nov. 15, 1948, he was in office for over twenty years and no contemporary statesman has held office for so long a time. The period which included his administrations raised Canada to its modern position in world affairs; and in the inter-world-war period the changes which occurred profoundly altered the country's imperial and international relationships. K. played an important part in bringing about these changes, in fulfilment of a dual policy founded on national autonomy and imperial and international co-operation. He brought to fruition Canadian ideals that had been gradually maturing since confederation was estab., and had been fostered in their time by other Canadian Premiers, notably by the Liberal Sir Wilfrid Laurier and the Conservative Sir Robert Borden. K. never favoured proposals for executive centralisation of the Empire countries, believing that such an arrangement would not make for unity among them. When the statute of Westminster (q.v.) was promulgated it was seen that the theories he preferred and enunciated at the Imperial Conference of 1926 had been given practical expression. From the first time he entered public affairs K. realised the need for Canada being united within herself, co-operative within the Commonwealth, and influential within the wider family of nations. All three purposes have been largely fulfilled since he first became Premier, and largely through his efforts. His belief that the Fr. and Eng. peoples in Canada can make a great contribution both to Canadian life and to world affairs has greatly influenced his policies as Premier; but how far he had succeeded in achieving national unity was only fully realised when the Second World War broke out in 1939. He brought a united Canada into the war, and it may be doubted if any other Canadian political leader could have done so. The Canadian achievements in the war under K.'s leadership were impressive; while more food was produced than ever before, the output of munitions and supplies increased also until it was the fourth largest among the Allies; Canadian economic and defence plans were integrated with those of the U.S.A., to the benefit of the allied cause; for the first time a complete Canadian Army served overseas, taking part with the Canadian Navy and Air Force in important engagements; at home the country's economy was revolutionised under a policy that correlated taxation, loans, restrictions on wages, and price-controls, and enabled the gov. to meet the huge war costs without more than a moderate rise in the

cost of living. K. has devoted his whole life to the study of public affairs. During and after his student days he was drawn to the study of political economy, especially in the sphere of labour relations. These studies led him to become editor of the Gov.'s *Labour Gazette*, and subsequently deputy minister of the newly formed dept. of Labour. From these experiences have come most of the labour and social enactments made in the dominion under his direction and elaborated into a comprehensive scheme of social security. He resigned in 1948, being succeeded in the premiership of Canada by Mr. Louis St. Laurent. He retired from politics in 1949. See *Canada and the Fight for Freedom* (speeches—Sept. 1941–June 1944); and E. Ludwig, *Mackenzie King: a Portrait Sketch*, 1944.

King, William Rufus (1786–1853), vice-president of the U.S.A. He was admitted to the Bar in 1806 and entered Congress in 1810. He represented Alabama in the Senate from 1820 to 1841, and was minister to France in 1844, and showed himself an active advocate for the annexation of Texas. In 1848 he was again a senator, ultimately becoming president of the Senate, and in 1852 vice-president of the U.S.A.

King (A.-S. *cyning*, man of the tribe, or chief), the man who (actually or nominally) holds supreme power in a state. A reigning queen has equal power, but not a queen consort. See GOVERNMENT; PARLIAMENT; SOVEREIGNTY.

King: 1. Is. off Australia, lying to the N.W. of Tasmania, in Bass Strait. 2. Co. in Washington, U.S.A., bounded on the W. by Puget Sound and Admiralty Inlet. Co. seat, Seattle. Pop. 260,900.

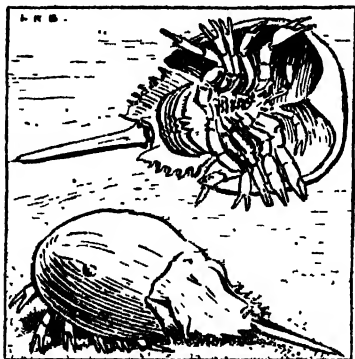
King and Kingship, see SOVEREIGNTY.

King Charles Spaniel, dog characterised by a large head, nose almost touching the skull between the eyes; it has very long ears, dark and lustrous eyes. The coat is long and silky, the colour determining the sub-varieties of this breed: black-and-tan, ruby, tri-coloured, or Blenheim (white marked with red). Popularised by King Charles II., the breed has been largely ousted by the introduction of the Pekingese.

King Charles's South Land, largest is. of Tierra del Fuego, S. America. It is generally level except in the W., where the highest point, Mt. Sarmiento, reaches a height of nearly 7000 ft.

King Crab, name given to any species of the class Xiphosura. There are five species forming a single family, Xiphosuridae. Formerly these were all included in a single genus *Limulus*. This genus has been discarded in favour of three genera, *Xiphosura*, *Carriniscorpius*, and *Tachyplesus*. The K. C. now belongs to a separate class of the phylum Arthropoda. It is a marine arthropod whose body, apart from its spike-like tail, is almost covered by a large shell or carapace. Unable to swim, the K. C. is found in comparatively shallow water. Sometimes they bury themselves in the mud or sand, using their tails to change their position.

Their eggs are laid in the sand at high-tide mark. Their food consists of bivalves and annelids.



KING CRAB

King Edward's Hospital Fund, see HOSPITAL FUND.

King Edward's School, Birmingham. Dating from 1552, the foundation includes seven schools for boys and girls, to a total of about 3000. There are a number of closed scholarships to Oxford and Cambridge.

King Edward VI. School, Southampton. public school founded under letters patent of King Edward VI. in 1553, by the will of the Rev. Wm. Capen, D.D., master of Jesus College, Cambridge, the main part of the existing buildings being erected in 1896. There are closed scholarships to Queen's College, Oxford.

King Edward VII. Land, region in the Antarctic, lying to the E. of Victoria Land, about lat. 76° S. and long. 152° 30' W.

Kingfishers are members of the Alcedinidae, a family of coraciiform birds remarkable for their peculiar shape and brilliant colouring. The head is exceptionally large, and the long angular beak is hooked; the tail and wings are relatively short, and the metatarsus only slightly developed. The Alcedinidae are sometimes divided into the sub-families Daceloninae, or wood K., and Alcedininae, or water K. The common European K., *Alcedo tephida*, belongs to the latter group; it has greenish-blue plumage, with bright blue head and tail, and white patches at the side of the neck; the bill is black with orange-tinted base. It is generally found by shady forest streams, sitting on a branch overhanging the water, or hovering with vibrating wings in search of the fish which form its prin. diet; having sighted the prey it dives perpendicularly, with folded pinions, and returning with the morsel dashes it on a stone or tree-branch before swallowing. K. feed also on insects, and on small crustaceans, in search of which they occasionally visit the seashore. Their eggs are usually deposited on a bed of fish-bones, concealed in holes in riv. banks, in tree stumps, or in old walls.

Kingfisher, Great, see LAUGHING JACKASS.

King George Sound, inlet of W. Australia, containing Princess Royal and Oyster harbours, and having on its shore the tn. of Albany.

King George V. Name of two Brit. battleships. The first, after service throughout the First World War, including Jutland, was scrapped in 1926. With ten 13.5 in. guns and a displacement of 23,600 tons, her speed was 21 knots. The second was completed in 1940, served in the convoys to Russia, in the *Bismarck* action, and at the landings in Italy, and took part in Pacific operations, including the bombardment of the Jap. mainland. She has a displacement of 44,650 tons, a length of 710 ft., a beam of 103 ft., and a weight of armour of 10,000 tons. Her armament consists of ten 14 in., sixteen 5.25 in., eight 40 mm., thirty-eight 20 mm., and eighty-eight two-pounder guns. Aircraft were originally fitted, but were removed in 1943. Other ships of the same class are the *Amson* (q.v.), *Duke of York*, *Howe*, and *Prince of Wales*, the last sunk by the Jap. in 1941.

King George's Fields Foundation, trust responsible for the playing fields side of the national memorial to King George V. When the national appeal was made in 1936 for funds for a statue in London and playing fields throughout the country, it was the intention that any tin, or vit. that needed playing fields and desired to commemorate King George V. in that way should have an opportunity of taking part in the national scheme. The appeal closed in 1937, and up to 1939 the amount remitted to the foundation by the National Memorial Fund Committee was £471,000. Surveys made at the time showed that few tin. had sufficient playing fields for their pops., and that on the average not one rural par. in tin possessed a public field. The problem, therefore facing the administrative council at the beginning was how best, when millions of pounds would be required, to make use of its limited funds, and it was decided to make grants towards the capita. cost of schemes promoted and maintained by local authorities or local bodies of trustees. This policy has been operated in collaboration with the National Playing Fields Association. Up to the end of 1946 the total number of schemes approved was 494, of which 361 are in England, 83 in Scotland, 31 in Wales, 7 in N. Ireland, and 1 in the Channel Is. Memorial fields in the colonies of Adm. Barbados, Falkland Is., Malta, and Nigeria have also been recognised by the foundation as coming within the scheme and accorded the heraldic panels which distinguish every field within the national memorial.

Kinghorn, royal burgh in the co. of Fifeshire, Scotland, on the frith of Forth, about 3 m. S.S.W. of Kirkcaldy. The inhab. are engaged in shipbuilding and in the manuf. of glue. It is also a watering-place, and has golf links. Pop. 2700.

Kinglake, Alexander William (1809-91). Eng. historian, was called to the Bar in 1837. Two years earlier he had travelled

in the E., and in 1841 he pub. his experiences in *Eolthen, or Traces of Travel brought Home from the East*. His interest in military hist., to the study of which he had devoted much time, took him, in 1845, to Algiers, where he accompanied the flying column of Saint-Arnaud, and, later, to the Crimea at the beginning of the war. The first vols. of his *Invasion of the Crimea* appeared in 1863, and the eighth in 1887.

Kinglet, see **GOLDEN-CRESTED WREN**.

'Kingmaker, The,' see **WARWICK, EARL OF**.

King-of-Arms, or King-at-Arms, officer whose business it is to direct the heralds, preside at their chapters, and have the jurisdiction of armoury. See **HERALD**.

King of the World, see **SHAH-JEHAN**.

King Paradise Bird, see **BIRD OF PARADISE**.

Kings, The Books of, so named as they contain a hist. of the kings of Israel and Judah, from the time of David to the captivity. Though styled the First and Second Books of Kings, they are but one book and were indeed anciently counted as one, forming the fourth in the series of the earlier prophets. They are subdivided in the Septuagint, Vulgate, and modern Heb. Bibles, being known in the Vulgate as the Third and Fourth Books of Kings (see subtitles in the A.V.). The div. is not a very necessary one, and it is difficult to make any clear separation between Sam. and Kings. The div. emphasises the fact that Solomon's reign inaugurated a new epoch, a period at first of great glory and then of decadence, while the previous period is that in which the kingdom was built up. Sam. and Kings were compiled from the same sources, and probably underwent successive redactions by the same hands. The books are drawn from a variety of sources. The principal of these are: (1) The various chronicles, such as the Book of the Acts of Solomon, mentioned in 1 Kings xl. 41, and the Book of the Chronicles of the Kings of Judah. These are frequently referred to, but their exact nature is not known. (2) The Book of Jashar and other popular and vivid collections of tales. (3) Certain official records of the temple, which furnish details about the dedication of the temple and its later hist. The main interest of the last redactor lay in this religious development, and his standpoint is definitely deuteronomistic, all the early kings being judged according to the standard of this time. See W. O. E. Oesterley, *An Introduction to the Books of the Old Testament*, 1934; and J. H. Bewer, *The Literature of the Old Testament in its Historical Development*, 1947.

King's African Rifles, regiment of six battalions of askaris, locally enlisted African tribesmen (Abyssinian, Kavirondo, Nandi, Masai, Somali, Galla, Yao, Mkamba, etc.) and the Somaliland Camel Corps, commanded and trained by regular Brit. officers, with a few specially selected Brit. warrant and non-commissioned officers for training and administrative duties at headquarters. The units are raised as far as possible locally, and are

allotted as distinct garrisons to the various Brit. E. African dependencies. The present 3rd K. A. R. were formerly the E. African Rifles, the 4th were the Uganda Rifles, while the 1st and 2nd battalions are re-formed Nyasaland units of the old E. African Rifles and Uganda Rifles. The K. A. R. has been on more or less continuous active service from 1893—the beginning of the 'scramble for Africa'—until the end of the First World War, and again throughout the Second World War. For years the K. A. R. has been a vital factor in upholding Brit. authority in E. Africa. After 1894, when Sir Gerald Portal declared a Brit. protectorate over Uganda, the so-called scramble for Africa began in earnest. This abrupt transition from tribal independence to tutelage under European powers was not effected without serious fighting, the brunt of which was borne by African troops. Designated by various titles, as shown above, these forces of askaris were eventually co-ordinated and reorganised as the K. A. R. Before the Second World War a garrison of only 5000 riflemen was found sufficient to guarantee the internal security, and guard the frontiers of the five Brit. dependencies, Kenya, Uganda, Tanganyika, Nyasaland, and Brit. Somaliland, with an aggregate area of 800,000 sq. m., and a total pop. of 12,000,000. But although each dependency has its own separate garrison of K. A. R., the various units are liable to be used to reinforce the troops in any particular dependency in which operations on an extended scale may have been undertaken. Owing to the variations of character and the difference in the temperaments of the different tribesmen in the K. A. R., the transfer of units to countries beyond their own has always to be effected with discretion. Thus, Somalis, though tireless in the arid wastes of their own country, are especially prone to malaria and would therefore be of little use for operations in the vicinity of the Uganda lakes or in the swamps of Tanganyika. Again, in view of the great differences in religion, character, and even in colour of the personnel of the K. A. R., it is essential for the officers to study the histories and customs of all the tribes from which the askaris are recruited. The K. A. R. played a prominent part in the operations against the Mad Mullah between 1899 and 1903, but in the latter year one detachment was wiped out at Gumburu. They also fought bravely in the First World War in their own terrain; but, except in the world war periods, the numbers of troops engaged has generally been small, though the distances to be traversed are vast, and the tribal enemy frequently merely elusive unclad warriors, often armed only with spears and bows and arrows. The services of the K. A. R. in the First World War afforded sufficient argument for their existence as trained cadres in peace by means of which, if necessary, large bodies of trained troops can be raised and placed in the field at short notice. In that war the K. A. R. took an important part in the operations in E. Africa from the beginning and particularly after 1916 in Gen. Smuts's

advance which swept the Gers. out of Brit. ter., and led to the occupation of Dar-es-Salaam and the pursuit of the fleeing enemy by Gen. van Deventer. Various columns consisting for the most part of battalions of the reorganised K. A. R. pursued the enemy forces till news of the armistice brought about the surrender of von Lettow and his force. In the Second World War the K. A. R. were reinforced by part-time volunteers of the E. African Defence Force. For many months after Italy's entry into the war in 1940, the K.A.R. bore the brunt of the fighting in the desert country of E. Africa. With the N. Rhodesian contingent and the Somaliland Camel Corps they offered stubborn resistance to the It. invasion of Brit. Somaliland, and later, when the Brit. passed to the offensive, they took a prominent part in the recovery of that ter. It was the speed of the advance of the K. A. R. to Afmahu which made the Its. evacuate Kismayu. In Feb. 1941, in the assault across the Juba R., the K. A. R. rendered notable service in the trackless bush. One mobile detachment with tanks and armoured cars took Modun and 1000 prisoners. Other companies of the regiment won victories at Todenang and Namaraputh, and at Merca they released 200 Brit. sailors victims of a German raider who had been lodged in an It. prisoners-of-war camp. In Abyssinia the K. A. R. were responsible for the brilliant capture of Mt. Pike, which was instrumental in dealing a mortal blow to It. hopes of counter attack. The K. A. R. were also in the advances which led to the assault on Gondar and in the attack which ended the Ethiopian campaign. Volunteers of the K. A. R. in Burma played a major part in the capture of the reputedly impregnable Mt. Kennedy in Nov. 1941, and stormed Kalamaya, guarding the approaches to Kalowa on the Chindwin R., their speed and stamina completely baffling the Jap. See E. V. Jenkins, *History of the 4th K. A. R.: an Account of the Origin and Activities of the King's African Rifles*, 1926.

King's Bench Division, one of the three divs. of the High Court of Justice, the other two being the Chancery Div. (see CHANCERY), and the Probate, Divorce, and Admiralty Div. Theoretically all the divs. have jurisdiction in all matters both of common law (*q.v.*) and of equity (*q.v.*); but in practice the K. B. D. deals principally with common law actions of debt (*q.v.*) and damages, actions for recovery of land (see EJECTMENT) or goods (see also DETINUE), applications for writs of *certiorari* (*q.v.*) and *mandamus* (*q.v.*), election petitions, appeals from co. courts and quarter sessions, criminal appeals (see CRIMINAL APPEAL, COURT OF), revenue cases, and cases relating to the registration of electors. Certain business of the K. B. D. is transacted by masters, and actions involving complicated questions of account are usually referred to an official referee (see also COMMERCIAL COURT). The court of king's bench, as it was once called, dates from about 1178 as a distinct tribunal from the *Curia Regis*, Henry II.

reducing the legal staff of the king's council to five judges, who were to sit in *banco* (bench) and nominally *coram rege*. Formerly the court followed the king, but from the time of Richard II. it became fixed at Westminster Hall, and in recent times at the Strand, the king having from the early Tudor period ceased to preside in person even in those 'difficult cases' which were supposed to be reserved for royal hearing. James I., however, insisted sometimes on presiding over his courts, but the Stuart violations of law or constitutional convention were unique. The old king's bench court always had a Crown side and a plea side. In the former it dealt with criminal and quasi-criminal matters, generally obtaining cognisance of purely civil suits through writs which alleged trespass *vi et armis* (by force and arms), whether force had been actually used or not (see also FICTITIOUS). Its wide jurisdiction in applications for writs of *certiorari*, *mandamus*, and other *Crown Paper* cases is derived from this criminal jurisdiction (see also CROWN CASES RESERVED, COURT OF). Its present revenue jurisdiction is a legacy from the defunct exchequer court (*q.v.*). The Lord Chief Justice of England is the head of the K. B. D., and there are seventeen puisne king's bench judges.

Kingsbridge, seaport and mkt. tn. in the co. of Devonshire, England, 32 m. S.S.W. of Exeter. Pop. 3300.

Kingsburgh, Sir John Hay Athole Macdonald, Lord (1836-1919), lord justice-clerk of Scotland from 1888, b. in Edinburgh. He became an advocate in 1859, and Q.C. in 1880. Solicitor-general for Scotland 1876-80, and lord advocate 1885-86 and 1886-88. He invented a holophote course indicator for preventing collisions at sea, a military field telegraph, a barothermometer, and other electrical appliances; and it was through his exertions with the postmaster-general and the gov. that postcards were introduced into Great Britain. His publs. include *Common Sense on Parade*; *A New Form of Infantry Attack*; *A Practical Treatise on the Criminal Law of Scotland* (1867); *Prisoners on Oath: The Volunteers in 1905*; *Fifty Years of It* (1909); and *Life Jottings of an Old Edinburgh Citizen* (1915).

Kingsclere, par. and tn. of Hampshire, England, situated on a small trib. of the Emborne, 64 m. S.E. of Newbury. The name indicates that there was a royal residence here in A.S. times. Houses are trained in the neighbourhood, and brewing and malting are carried on. Pop. 2200.

King's College, Cambridge, was founded and endowed in 1441 by King Henry VI. for a provost and seventy scholars, and under the founder's statutes every vacancy had to be at once filled by the admission of a scholar from the sister foundation of King Henry at Eton. But in 1861 open scholarships were started, and undergraduates not on the foundation were admitted to the college. All students, with a few exceptions, read for an honours degree. Its society at present consists of a provost, forty-six fellows, and forty-eight scholars. The splendid roof

was provided by Henry VII. Henry VIII. gave the windows, incomparable work of Eng. glaziers, inspired by Flemish artists, and, later still, the woodwork made by its, who had worked in France, and dated by Anne Boleyn's monogram. The organ is believed to have been placed above the screen in James I.'s time. Milton had it in mind when he wrote of 'storied windows' and of the organ pealing 'to the full-voiced choir below.' This college had some unusual privileges; it was exempt from the jurisdiction of the archbishop of Canterbury, the bishop of Ely, and even of the univ., in matters scholastic, and until 1857 members of K. C. could take a degree without passing the univ. examinations. The college chapel is very fine, and contains some of the best glass and wood-carving examples.

King's College, London, a college of London Univ., which was founded in 1828, its constitution being amended by an Act of Parliament in 1882, and again in 1908, when the college was reorganised under a scheme of incorporation. K. C. as it was originally founded, and as it developed since its foundation, was divided into seven different institutions: (1) Univ. of London, King's College; (2) King's College theological dept.; (3) Univ. of London, King's College for Women. The home science dept. was moved in 1915 to Campden Hill, and in 1925 became a separate institution under the title of King's College of Household and Social Science. (4) King's College hospital and medical school. The corporation of the hospital is now entirely separate from the college, and the authority of the council of K. C. is entirely taken away. The new hospital buildings are at Denmark Hill. (5) King's College School, Wimbledon Common. This school has been transferred by statute to a new corporation in which the property of the school is vested. (6) Strand School. The L.C.C. took over the management of the Strand School in 1913, and has built new buildings at Elm Park, Brixton. (7) Civil service dept., which, under the name of St. George's College, was transferred from the college in 1912. The staff for oriental languages was transferred to the new school of oriental studies (London Institution) estab. by royal charter in 1916. K. C. gives instruction in science, art, theology, engineering, etc., and has a fine library, consisting chiefly of scientific works. The college museum contains King George III.'s collection of philosophical instruments and mechanical models as well as Babbage's calculating machine. From its beginning K. C. was almost without endowment. It was started by men of great distinction, and a sum of at least £150,000 was spent on its buildings. The college commenced operations under a heavy debt, a considerable number of the first promoters having succeeded without paying their subscriptions owing to distrust of the policy of the duke of Wellington in supporting Catholic emancipation. But since that time it has received certain legacies and endowments together with large sums raised for improvements.

King's (or Queen's) Counsel, those bar-

risters of the Eng. Bar who wear silk gowns and sit 'within the Bar.' Hence colloquially called 'siks.' They take precedence of 'juniors,' i.e. all who wear stuff gowns and sit outside the Bar. Formerly, patents of precedence were granted to K. C. and Q. C. by the crown, but that custom has been in disuse for the last thirty years. K. C. rank next in precedence after the leaders of the Bar, the attorney-general and solicitor-general, and are called K. C. or Q. C. apparently for no other reason than the fact that their full style is 'His Majesty's counsel learned in the law.' They may not hold briefs in any cause against the Crown without special licence. It is the almost inviolable etiquette of the profession that K. C. should never appear with a brief in a civil action without a 'junior,' the only exception to this rule being when a 'leader,' or K. C., is retained for a plaintiff suing *in forma pauperis* (q.r.). Even in criminal cases it may be stated as a general rule that a leader cannot hold a brief without a junior. Chancery 'siks' attach themselves to one particular judge of the Chancery Div. and so gain a monopoly of the work there. Occasionally they become what is termed 'specials,' when they will undertake to go into any other court for a special fee of fifty guineas or more. The 'leader' has the conduct of the case, but the junior settles the pleadings, writes 'the advice on evidence,' and settles interrogatories or other documents in the interlocutory proceedings. In court the leader frequently invites the junior to examine the first witness. Very often it happens that the junior conducts the case almost throughout, the leader being engaged elsewhere.

King's Council, see CURIA REGIS.

King's County, Eire, see OFFALY.

King's (or Queen's) Evidence. Where one of sev. persons jointly charged with a crime gives evidence so as to secure the conviction of his accomplices, such evidence is called K. E. It is customary for the committing magistrate, where the evidence for the prosecution is weak, to hold out a hope of acquittal to any co-defendant who can and will give such evidence as will supply the want of sufficient evidence for the prosecution. At the trial, however, it is necessary to obtain the sanction of the judge to such a course. It is to be observed that counsel for the prosecution may, where necessary, obtain the consent of the judge at the trial to put one of the co-defendants in the box, and thus secure his acquittal, even without any suggestion of such a course from the committing magistrate. In any case, K. E. is to be looked at with suspicion. It is the practice though not legally necessary, to require the evidence of an accomplice to be corroborated in some material part by independent evidence, and such confirmatory evidence ought to go far enough to identify the prisoner so turning K. E. with those of his accomplices who remain in the dock. See HARRIS, *Principles of Criminal Law*; Russell, *On Crimes*; and Archbold, *Practice*.

King's Evil, old and popular name for

scrofula (q.v.). The origin of the term lies in the belief that a royal personage was endowed with healing power directed particularly to this form of tuberculosis. The power was claimed by the royal houses of England and France, and was attributed to the use of 'chrism,' or oil of peculiar sanctity, in the coronation ceremonial. From the time of Edward III. the custom of touching afflicted persons was maintained until the time of the Stuarts; under the Hanoverians the actual custom became obsolete, although the Stuart pretenders practised it in their exile and during their invasions of this country.

Kingsford, William (1819-98), Brit. engineer and historian, b. in London. At seventeen he enlisted and went to Canada with his regiment, but obtained his discharge there in 1841. He qualified as an engineer at Montreal, and worked on the Grand Trunk and other railways, and in 1872 was appointed Dominion engineer in charge of the harbours of the great lakes and the St. Lawrence, a post he held until 1879. After this he devoted himself to the compilation of his *magnum opus*, a *History of Canada* (10 vols., 1887-93).

Kingsford-Smith, Sir Charles Edward (1897-1935), Australian air commodore, b. at Hamilton, Brisbane. Crossed the Pacific in 1928 in the 'Southern Cross' flying boat; Australia to Britain, 1929; Ireland to America, 1930; Britain to Australia, 1933 (in seven days). The first airman to circumnavigate the world. In 1931 he made a 21,000-m. trans-Pacific flight in long stages, thereby being the first to fly twice over that ocean, once in each direction. In 1935 he left Liverpool, with two other airmen, and reached Baghdad on Nov. 7, having flown 18,000 m. in one day five-and-a-half hours. The same day he resumed the flight for Singapore but was never heard of again. He wrote *My Flying Life* (1936).

King's Letter, see **BIBLE**.

Kingsley, Charles (1819-75). Eng. clergyman and novelist, was educated at King's College, London, and Magdalene College, Cambridge. He entered the Church and in 1842 became curate, and two years later rector, of Eversley, Hampshire. In 1849 he was appointed one of the queen's chaplains in ordinary, and in 1873 was promoted to the canonry of Westminster. In his younger days he was allied with F. D. Maurice in the Christian Socialist movement, and it was his interest in the poor and the working classes that led him to write *Peast* (1848), and *Alton Locke* (1850), in which, with a virile pen, he dealt with various abuses. As the movement became more revolutionary in its character, his sympathies were alienated from it, and his later books had nothing to do with its propaganda. *Hyppatia* (1853) is a brilliant and forcible picture of life in the fifth century at Alexandria in the days when the Christian Church and the Rom. Empire were struggling for mastery. *Westward Ho!* (1855), his most popular work, is a stirring story of the Elizabethan heroes. *Two Years Ago* (1857) is a story of the Crimean war. His pub. the delightful *Water-babies* in 1863,

and, subsequently, other books. He also wrote poetry, and some of his verses have the true poetic ring, notably *The Three Fishers*, *The Tide Ware*, and the well-known *When all the world is young, lad*. K's power of characterisation was weak. His characters are either lay figures or unoriginal, and when original, they are usually exaggerated. His one outstanding creation is Miriam in *Hyppatia*. He had a great command of language, and his scene-painting is admirable. In few



A.P.G.

CHARLES KINGSLEY

Water colour by Carlo Pellegrini, drawn for *Vanity Fair*.

Eng. authors can there be found finer pictures than are contained in his books, whether of Eng. landscape, as in *Peast*, or of wretched hovels, as in *Alton Locke*, or of Alexandria and the desert, as in *Hyppatia*, or of the hills of Devonshire, and the solitude of the great St. Aust. forest which Amyas Leigh and his followers traverse, as in *Westward Ho!* or of the islands, as in *Hereward the Wake* (1866).

The blend in K. of jingoism, latitudinarianism and anti-popery coincided well with the tastes of Queen Victoria, and in 1859 all remembrance of his youthful radicalism was forgotten in an invitation to preach in Buckingham Palace. He soon became one of the queen's chaplains in ordinary, and almost at the same time Palmerston offered him the Cambridge professorship of modern hist. The only reason for supposing that he was qualified for the post was that he had written three historical novels, and he soon showed that he was not really suited to the chair. The queen then appointed him tutor to her heir, then studying at Cambridge. To prepare himself for this additional privilege, K. immersed himself in Ger. hist., only to learn with dismay that he was to instruct the prince in the period from

William III. to Waterloo. However, he continued to deserve and enjoy the queen's approval. He attacked popery, he championed Governor Eyre (*q.v.*), and he welcomed the Prussian victory at Sadowa. Yet year followed year, deaneries and bishoprics fell vacant, and K. remained rector of Eversley. When the queen suggested him in 1808 for a canonry at Worcester, even this small prize was withheld, for the reason that it would have been prejudicial to Disraeli. In the following year Gladstone, who shared few of K.'s opinions, made amends for K.'s earlier disappointments, and he was made a canon, first of Chester, then of Westminster. Had he not *d.* at fifty-five he might well have become a bishop. In a new reassessment of K., Dame Una Pope-Hennessy reveals K. as a greater man than most imagine. There was a rugged independence of mind, though not supported by intellect of an equal order. Christian Socialist, Imperialist, and Chartist sympathiser, his vigour of view was sometimes impulsive and not principled, and a desire to throw himself into a conflict with an added pleasure when he found himself on the unpopular side. Dame Una rightly insists upon K.'s passion for nature, and suggests that, if he had concentrated upon describing natural scenes, he would rank to-day above Richard Jefferies. However that may be, it was this passion that enabled K. to admire Darwin, whereas most other intellectuals, including Goethe and George Eliot, excited his contempt. There is a painting of him by L. C. Dickinson (1862) in the National Portrait Gallery.

See his *Life and Letters*, ed. and written by his widow, 1877; C. E. Raven, *Christian Socialism*, 1920; W. H. Brown, *Charles Kingsley: the Work and Influence of Parson Lot*, 1924; M. Hanawalt, *Charles Kingsley and Science*, 1937; G. Kendall, *Charles Kingsley and his Ideas*, 1947; and Una Pope-Hennessy, *Canon Charles Kingsley*, 1948.

Kingsley, Henry (1830-76), Eng. novelist, a brother of Charles K., went to the Australian goldfields in 1853. Returning in 1858, he began to write novels, the first of which, *Geoffrey Hamlyn*, appeared in 1859. From 1861 he edited the *Edinburgh Daily Review*, and acted as war correspondent for the paper during the conflict between France and Germany (1870-71). His masterpiece is *Ravenshoe* (1861). See life by S. M. Ellis, 1931.

Kingsley, Mary Henrietta (1862-1900), Eng. ethnologist, sociologist and traveller, remarkable for her researches into W. African ethnology. B. in Islington, daughter of George Henry K., brother of Charles K.; studied ethnology at Cambridge Univ. After the death of her parents she decided to go out to W. Africa and make a study of native religion, law, customs and folk-lore. Eventually she went also to the Fr. and Lower Congo. Made the ascent of Mt. Cameroon. She pub. an account of her exploration in *Travels in West Africa* (1897). Other works include *West African Studies* (1899), and *The Story of West Africa* (1899) (Story

of the Empire series). Her view that the Negro should be educated on African lines is essentially sound and would be accepted by many Brit. ethnologists to-day; but it is a development which the urbanisation of the W. African colonies renders far more difficult of accomplishment than in the E. African dependencies. (On this consult J. Huxley's *African View*, 1931, and D. Westerman's *The African To-day*, 1934.) Mary K.'s life was an unselfish one and she *d.* in S. Africa at an early age from enteric fever contracted in nursing fever cases during the Boer war. See life by S. Gwynn, 1932.

King's Lynn, Lynn Regis, or Lynn, municipal bor., mkt. tn. and seaport of Norfolk, England, situated at the mouth of the Great Ouse, 97 m. N.E. of London. The harbour is some 30 ac. in extent; there are two docks and good roadsteads between them and the Wash. The Alexandra Dock, opened in 1869, has a water area of nearly 7 ac. with a depth of 31 ft. In addition there are riverside quays. The mussel, cockle, and shrimp fishery is important. There are boat-building yards, manufs. of sails, artificial manures and fertilisers, engineering works, iron foundries, beet sugar factory, fruit and vegetable canning factories, corn mills, agric. implement manufs., and brewery. The streets are generally narrow and winding, and many of the houses and buildings are renowned for their architectural and historic interest. In the centre of a public promenade in the Walks is an octagonal chapel called the Red Mt. (1485), which was formerly the resort of pilgrims. The par. church of St. Margaret (1100) is a fine Gothic structure, with two towers at the W. end. St. Nicholas's chapel (1150) has many interesting memorials. All Saints' church is a beautiful and ant. cruciform building. Among other notable buildings are the Trinity Guildhall (tn. hall adjoining) with Renaissance porch, and W. Lynn church, the E. wall and window of which have been rebuilt. Clifton House, with a five-storied brick watch-tower, is one of the most interesting of the merchants' houses, dating from the sixteenth or early seventeenth century. This property has recently been purchased by the corporation for preservation. St. George's Hall, in King Street, the old hall of the guild of St. George, is another medieval monument comparable only with such buildings as the guildhalls of London, York, Norwich, and, of course, the Trinity Guildhall at Lynn itself. It had a long association with drama, extending from Shakespeare's day to the nineteenth century. The roof of this fine hall is undergoing repair, and when the whole of the building has been renovated, it is proposed to use it as an art centre.

On its landward side the tn. was formerly defended by a fosse, and there may still be seen remains of the old wall, including a handsome Gothic structure, known as the S. Gates. At the grammar school, the foundation of which dates back to Henry VIII., Eugene Aram was at one time usher. Fanny Burney and

Capt. George Vancouver were b. at Lynn. Pop. 25,500.

King's Medal for Service in the Cause of Freedom, silver medal instituted in 1945 to recognise services by civilians of foreign nationality, in furtherance of the interests of the Brit. Commonwealth in the allied cause during the Second World War. The obverse bears the king's crowned effigy. The reverse, designed and modelled by Mr. T. H. Paget, shows a knight in armour, fresh from the heat of combat, and with his lance broken, receiving refreshment from an allegorical female figure. A similar medal, for 'courage in the course of freedom' is awarded for deeds of gallantry, generally to members of resistance movements who helped Brit. servicemen to escape from the enemy.

King's Messenger, messenger or courier appointed by the Foreign Office to carry dispatches to its representatives in foreign caps. His badge is a silver greyhound.

Kingsmill Islands, see GILBERT ISLANDS.

King's Mountain: 1. Banking tn. of Cleveland co., N. Carolina, U.S.A., about 33 m. from Charlotte. It has cotton mills and is the seat of the Lincoln Academy. Pop. 6500. 2. Mt. ridge between N. and S. Carolina, where the Eng. and Loyalists under Ferguson were defeated by the Amer. backwoodsmen led by Campbell, Shelby, and others (1780). See L. C. Draper, *King's Mountain and its Heroes*, 1881; and E. McCrady, *South Carolina in the Revolution, 1775-80*, 1901.

King's Norton, S.W. suburb of Birmingham, England. There are manufs. of small arms, paper, screws, chocolate, cocoa, etc., and metal rolling mills. Bournville, the model vil., lies within the par. Pop. 70,000.

King's Own, see YORKSHIRE LIGHT INFANTRY.

King's Own Scottish Borderers, old 25th Foot, raised in Edinburg in 1689 by the third earl of Leven. As the 25th Foot it fought against the Highlanders of Claverhouse at Killiecrankie with such distinction that it was accorded the privilege of 'beating up at all times in the city without asking permission of the Lord Provost.' Named K. O. B. in 1805. The word Scottish was added afterwards. Prior to the First World War their chief battles and sieges were Namur, Minden, Chitral, Tirah and Paardeberg. In the First World War the 2nd battalion fought at Le Cateau and at Hill 60 (q.v.), while other battalions were in the fighting for Krithia and Achi Baba, in Gallipoli; at Romani, the passage of the Auja, and Gaza in Egypt; at Delville Wood (q.v.) and in the Lys battle (q.v.)—where one of the units was almost destroyed; at Kemmel Hill (q.v.), Cambrai (q.v.), St. Quentin, and Bapaume. In the Second World War the K. O. S. B. fought on the W. front, and in Burma. The regiment was also one of those which took part in the heroic battle of Arnhem (Sept. 1944). See H. Gunning, *Borderers in Battle: the War Story of the King's Own Scottish Borderers*, 1949.

Kingport, tn. in Tennessee, U.S.A., on the Holston R., in the S. Appalachian Mts.

Industrial products include cellulose acetate, iron, glass, and rayon, and there is a large book-printing works. Pop. 14,400.

King's Printers are those who are entitled to the special privilege of being allowed to print any, or even all, of the books in which the Crown enjoys copyright. They also print copies of private acts, proclamations, orders in council, etc. They were originally appointed by patent for the three kingdoms, England, Scotland, and Ireland, the custom dating back to the sixteenth century, the first king's printer probably having been Grafton in 1547. Another famous one was Eyre in 1767, the founder of the firm of Eyre & Spottiswoode, His Majesty's printers, which has sev. times received the patent. The same privilege is enjoyed by the Oxford Univ. Press and the Cambridge Univ. Press. There are also 'King's Printers and Controllers of Stationery' in Canada and gov. printers in all the other dominions and colonies of the empire.

King's Prize, see BISLEY.

King's Proctor represents the Crown (q.v.) in admiralty and matrimonial causes. The Treasury solicitor holds the office at the present day, and that functionary is generally a barrister. He intervenes to stop decrees nisi in divorce being made absolute on the ground that all the material facts have not been before the court, or where he detects collusion, or at any stage of divorce proceedings where it would be against morality to dissolve the marriage tie. He has the right to see letters, briefs, and all other documents in divorce cases, whether privileged or not (see CONFIDENTIALITY). The judge has power in any petition for dissolution or nullity suit to order all necessary papers to be sent to the K. P., that the latter may, under the direction of the attorney-general, instruct counsel to argue any point in the case which the judge thinks ought to be fully argued. The court may order the parties or any of them to pay the costs of intervention.

King's Regiment (Liverpool). Formerly the old 8th Foot, this regiment was raised in 1685 at the time of the duke of Monmouth's rebellion. It fought under William III. in Ireland and Flanders, under Marlborough at Blenheim, Ramillies, Oudenarde, and Malplaquet, and under George II. at Dettingen (1743). It served with distinction during the Indian mutiny, in the Afghan war (1878-79), and in Burma (1885-87). During the S. African war, 1899-1902, it was in the defence of Ladysmith. During the First World War it raised no fewer than forty-five battalions, which served in France, Flanders, Macedonia, N.W. Frontier of India, and Archangel. It also participated in the third Afghan war (1919). In the Second World War the K. R. took part in the fighting on the Caen Canal and Orne R. in the battle of Normandy, 1944. They also fought in Italy and in the Far E., as part of the Chindits. Formed part of the garrison of Leros (1943).

King's Regulations, the official regulations for the organisation of the army.

They comprise some 1850 articles or paragraphs dealing with the organisation or composition of the army; duties of commanders; duties of the general staff; appointment and promotion of officers; service, promotion, employment and discharge of soldiers; discipline and courts martial; training and education; ceremonial; uniforms and equipment; movement of troops, etc. They are arranged from time to time by army orders.

King's Remembrancer, see REMEMBRANCER.

King's Royal Rifle Corps, old 60th Foot, with which are allied the 60th Rifles of Canada and the 63rd Regiment 'Halifax Rifles' of Nova Scotia. The K. R. R. C. was raised in 1755 in N. America as the 60th Royal Amer. for service in the Seven Years war. It received its modern title in 1830. No Brit. regiment has a larger number of battle honours, a fact which is, however, partly due to the fact that until shortly after the First World War it was a four-battalion regiment. The K. R. R. C. fought at Quebec (1759), Martinique (1762), in all the battles of the Peninsular campaign, at Moodtan and Gujerat, in S. Africa (1851-53), Delhi (1857), at the storming of the Taku forts, in S. Africa again in 1879, at Ahmad Khel, Kandahar (1880), at Tel-el-Kebir, Chitral, the defence of Ladysmith and the relief of Ladysmith in the S. African war. In the First World War the regiment was expanded to nearly thirty battalions. The 1st and 2nd (Regular) battalions were part of the original B.E.F. (q.v.), and fought in all the great battles of 1914, the first battalion losing, at Ypres, among its officers, Prince Maurice of Battenberg. Other battles in which the K. R. R. C. took part were Festubert (1915), Hill 60 (q.v.), Loos (q.v.), the Somme (1916), Lombardzyde (1917), where one of its battalions won special recognition, Caporetto (q.v.) in Italy, the Somme and Lys battles of 1918, and the fighting around Cambrai and St. Quentin. The king is colonel-in-chief of the regiment. In the Second World War the K. R. R. C. took part in most of the great battles on the W. front and in Italy. One battalion was part of the heroic garrison of Calais in 1940.

King's School. Name of sev. Eng. public schools. Canterbury, originating in Augustine's foundation of the seventh century, it was refounded by Henry VIII. in 1541. Norman, fifteenth- and sixteenth-century buildings, still exist. Linacre and Harvey were pupils here, and here are closed scholarships to Oxford and Cambridge. See Woodruff and Cape. *Schola Regia Cantuariensis*, 1908. There are also schools with the same name at Macclesfield (founded 1502); Bruton (1519); Chester (1541); Worcester (1541); Ely (1543); and Rochester (1650).

Kingston, William Henry Giles (1814-1880), Eng. writer, b. in London, son of a merchant who lived in Oporto. Here he wrote articles for the Portuguese newspapers, which were instrumental in the conclusion of a commercial treaty between England and Portugal. His first success came with his story for boys, *Peter*

the Whaler (1851). He was encouraged by this success to retire from business and devote himself to tales of adventure. He soon became one of the most popular authors of adventure stories, and within thirty years wrote some 130 tales of adventure for boys. Among them were *From Powder Monkey to Admiral*, which ran as a serial in the *Boy's Own Paper*. Others were *The Three Midshipmen* (1862); *The Three Lieutenants* (1871); *The Three Commanders* (1875); and *The Three Admirals* (1877). He also conducted sev. papers, including *The Colonist*, and *Colonial Magazine*, and *East India Review*. He was also interested in emigration, volunteering, and various philanthropic schemes. For his services in negotiating the treaty mentioned above, he received a Portuguese knighthood, and for his literary labours a gov. pension.

Kingston: 1. Seaport and the cap. of Jamaica, W. Indies, situated in the S.E. of the is. It has one of the finest natural harbours in the world; the area of the harbour is 16 sq. m., of which about 7 sq. m. have a depth of from seven to ten fathoms. It is beautifully situated on regularly sloping ground on the N. shores of the harbour, and is one of the is.'s tourist resorts. The streets were laid out by compass, those at right angles to the shore running N. and S., those parallel to the shore-line running E. and W., but flood waters have worn the N. and S. streets below the general level. At the intersection of King and Queen Streets there was formerly a parade ground and mkt. place, but this has been converted into a garden—Victoria Park, from the statue of Queen Victoria in the public square to the S. K. was not the first place chosen for the commercial cap. Port Royal flourished as such until it was destroyed by an earthquake in 1692, when a law was passed declaring K. to be the 'chief seat of trade and head port of entry.' From that time the prosperity of K. was assured. It was swept by a great fire in 1780, but soon recovered. A disastrous earthquake occurred in Jan. 1907, when nearly 2000 lives were lost. Poverty and unemployment led to serious riots in May-June 1935, and damage was done to corporation and other property. The Jamaican Gov. railway links it with Montego Bay and Spanish Town. Pop. 80,000. 2. City of Ontario, Canada; cap. of Frontenac co., on the N.E. of Lake Ontario at the mouth of the Cataraqui R., and 160 m. E. of Toronto. Called the Limestone City from many public and private buildings of that material. It was incorporated as a city in 1838 and, in 1841, became for a time the cap. of Canada. In the same year was founded Queen's Univ.—the third largest in all Canada. Besides the univ., it has the Royal Military College of Canada, a fine collegiate institute and vocational school, and good public or primary schools. Has, also, an excellent public library and good hospitals. There are two cathedrals and many churches. Its industries include locomotives, textiles, shipbuilding, biscuits, and chemicals. It is on the Canadian National (main line)

and Canadian Pacific railways. Has a good harbour, and is an important port of call for Great Lakes freight and passenger services. K. was founded in 1673 by Count Frontenac, governor of New France. Captured by the Brit. in 1758 and, in 1783, settled by United Empire Loyalists. Pop. 25,000. J. City of New York, U.S.A., and co. seat of Ulster co., situated on the Hudson R. Its chief industry is the manu. of tobacco and cigars; boat-building, cement works, brickyards, are other industries, and stone is quarried in the neighbourhood. It has trade in coal, lumber, and grain. Pop. 28,600. 4. Tn. of Pennsylvania, U.S.A., in Luzerne co., situated on the r. b. of the Susquehanna R. The manu. are silk goods and hosiery, and there are railway works and machine factories. Coal is extensively mined in the neighbourhood. It is the seat of the Wyoming Seminary. Pop. 20,700.

Kingston-upon-Hull, see **HULL**.

Kingston-upon-Thames, royal and municipal bor. and mkt. tn. of Surrey, England, 11 m. S.W. of Charing Cross. It is a residential suburb, possessing fine promenades and public gardens on the riv. bank. There are large mts. of gardens, and in the tn. flour mills, breweries, oil works, and brickyards. K. is historically interesting, sev. Saxon kings were crowned here, and the coronation stone, which is supposed to have been used for the throne, now stands in the market place. The Saturday market was granted by James I., and the Wednesday market by Charles II. A fair, held in Nov., was granted by Henry III. King George VI., with the queen, in Oct. 1948, opened the new power station at K., the first of twenty-five planned by the Brit. electricity authority for the whole country. Pop. 39,000.

Kingstown: 1. Formerly **Dunlary**, and now officially **Dun Laoghaire**, a tn. and seaport of Dublin, Eire situated on Dublin Bay, 6 m. from the city. It is the mail-packet station for communication with Holyhead, and has a royal harbour, which may be entered by vessels drawing 24 ft. at any state of the tide. K. is a popular holiday resort, possessing three yacht clubs; it is a fishing centre, and has an export trade in cattle. Pop. 21,000. 2. Seaport and cap. of St. Vincent, W. Indies, situated on the S.W. coast. It has considerable export trade in spices, sugar, cocoa, spirits etc. Pop. 6000.

Kingsway, thoroughfare in London, England, which connects Holborn with the Strand. It was so called in compliment to the late King Edward VII. who opened it on Oct. 18, 1905. It runs from High Holborn, opposite Southampton Row to Aldwych, and is 1800 ft. long and about 110 ft. wide. A tunnel for tramways runs below K., connecting Theobalds Road with the Thames embankment.

Kingswinford, par. and vil. of Staffordshire, England, 3 m. W. of Dudley with coal mines and manu. of nails, bricks, laths, etc. Pop. 23,000.

Kingswood, par. and vil. of Gloucester, England, 3 m. from Bristol, with manu. of boots, elastic, pins, etc.,

also woollen and silk industries. There are interesting abbey ruins in the vicinity. Pop. 18,000.

Kingswood School, Bath, Eng. school founded by John Wesley (q.v.) in 1748, originally for the sons of Methodist ministers. Wesley preached his first open-air sermon at the vil. of Kingswood (q.v.).

King's Yellow, yellow pigment made from the mineral orpiment or arsenic trisulphide, As₂S₃.

Kingtehoen, tn. of China in the prov. of Kiangsi. It stands on the R. Chang, near Fulaughien. Once famed for its porcelain, which was made here before A.D. 1000 but the industry has recently declined. The Kauling Hills in the dist. have given the name to kaolin (q.v.) or china clay, used in the porcelain manu. Pop. 600,000.

Kington, tn. of Hereford, England, situated on the Arrow. It has laneyards and malt-houses, iron foundries, and nail factories. Pop. 2000.

Kingussie, tn. of Inverness-shire, Scotland, 55 m. N.N.W. of Perth. It is a favourite summer resort. Pop. 2300.

King William's Town, locally called **Kings**, a tn. in Cape Prov., S. Africa, situated on the Buffalo R. in the midst of an agric. dist.; forests of valuable timber are found near by. It is a busy trade centre and there are manu. of wagons, furniture, jams, sweets, leather, candles, soap, etc. Pop. 7000.

Kinlochleven, tn. at the head of Loch Leven, Argyll, Scotland, is of recent growth and owes its existence to the development of the water-power of the dist., and the estab. of the works of the Brit. Aluminium Company. See **LIVEN**.

Kinloss, vil. of Ontario, Canada, situated in Bruce co., close to Kincardine.

Kinmont Willie see **ARMSTRONG, WILLIAM**.

Kinnear, Norman Boyd (b. 1882), Brit. ornithologist, was the son of an Edinburgh architect, and was educated at Edinburgh Academy and Trinity College, Glenalmond. From 1905 to 1907 he was an assistant at the Royal Scottish Museum, and for the next twelve years curator of the Bombay Natural Hist. Museum, as well as assistant editor of the Bombay Natural Hist. Society jour. In 1920 he entered the natural hist. dept. of the Brit. Museum, in 1927 becoming deputy keeper in charge of birds. He became keeper of zoology in 1945, and two years later director of the natural hist. dept. He has pub. a number of papers on ornithology.

Kinneir, Sir John Macdonald (1782-1830), Scottish traveller and diplomatist, b. at Carnden, Linlithgow. In 1804 he was appointed ensign in the Madras Infantry, and became captain in 1815. He made numerous journeys in Persia, and also travelled through Armenia and Kurdistan, publishing his results in a *Narrative of Travels in Asia Minor, Armenia, and Kurdistan in 1813-14* (1818). He was envoy to Persia (1824-30), and took part in the hostilities with Russia.

Kinning Park, dist. of Lanarkshire

Scotland, in the par. of Govan, situated on the Clyde. It was a country resort for the Glasgow citizens until 1860, when the extension of Glasgow harbour and docks caused it to become a residential part.

Kino, astringent drug obtained from certain trees on the W. coast of Africa, in India, and in Ceylon. The substance recognised as K. at the present day is the product of the tree *Pterocarpus Marsupium*. The properties of the drug are due to the presence of kino-tannic acid and pyrocatechin. It is a useful astringent, and was formerly used as a gargle.

Kinross of Glaselune, John Blair Balfour, first Baron (1837-1905), lord president of the court of session in Scotland, b. at Clackmannan. He was called to the Scottish Bar in 1861, and rose to be the foremost advocate in Scotland. He was appointed solicitor-general for Scotland in 1880, and in 1881 became lord advocate, again holding the office in 1886 and from 1892 to 1895, and during the last period he took an active part in carrying through the House of Commons the Local Government Act for Scotland, 1894. In 1899 he succeeded James P. Bannerman as lord president of the court of session, and in 1902 was raised to the peerage.

Kinross: 1. Inland co. of Scotland, with an area of 87 sq. m. It is bounded on the N. and W. by Perthshire, on the S. and E. by Fifehire. Its surface is well cultivated—barley and oats are grown, and cattle and sheep are reared. In the S.E. is Loch Leven, which is drained by the R. Leven; the loch is noted for its many historical associations, especially with Mary Queen of Scots. In the N. and W. are the Ochil Hills, and eastward are the Lomond heights. The manufs. of the co. are linen, plaids, and tartans; brewing is also carried on. Cap. K. Pop. 8100. 2. Cap. of Kinross-shire, Scotland, situated 8½ m. from Dunfermline. There are sev. woollen mills, and the manuf. of linen is carried on. The tn. is ant., and has interesting ruins; it was the prin. residence of Alexander III. Pop. 2600.

Kinsale, seaport tn. of co. Cork, Eire, situated on K. harbour, 14 m. S.W. of Cork. It is built partly on the slopes of Compass Hill, and the streets are narrow and steep. It is frequented by summer visitors, and is the headquarters of the S. of Ireland Fishing Company. Pop. 2100.

Kinsale Harbour, estuary of the R. Bandon in co. Cork, Ireland. It has an average width of half a mile, and extends 2 m. from the tn. of Kinsale. Off the Old Head of Kinsale, W. of the harbour, the *Lusitania* was sunk, 1915.

Kinsen, see CHIEMULPO.

Kinshaking, see CHUNGSHA.

Kinston, tn. of N. Carolina, U.S.A., and the co. seat of Lenoir co. It is situated on the Nense R., about 26 m. S.E. of Goldsboro by rail.

Kintyre, or **Cantire**, peninsular dist. of Argyllshire, Scotland, situated between the firth of Clyde and the Atlantic, and joined to the Argyll mainland by the isthmus of Tarbert. It is 43 m. long, with an average width of 8½ m.; the prin. tn. is Campbeltown. The inhabs. are engaged

in the fisheries, agriculture, and stone quarrying. The Mull of Kintyre is a headland at the S. extremity; a lighthouse is placed here with a fixed light visible 24 m. distant. See A. McKerral, *Kintyre in the Seventeenth Century*, 1945.

Kinver Edge, Staffordshire, 5 m. W. of Stourbridge and 5 m. N. of Kidderminster. 198 ac. of high heath and woodland with fine views, including an early Iron Age camp and the Holy Austin and Nanny's Rocks. There are some interesting rock dwellings on the property. Presented in 1917 as a memorial to Mr. Grosvenor Lee by his children.

Kioga, see CHOGA.

Kios, see CHIOS.

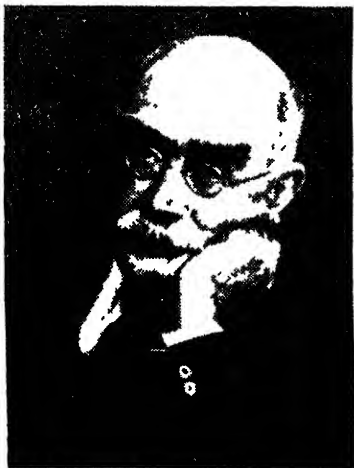
Kioto, see KYOTO.

Kiowas, tribe of N. Amer. Indians which, when the white men first visited the Great Plains, inhabited the region round the head of the Platte R. By the Medicine Lodge Treaty in 1867 they agreed to be assigned to their present reservation in Oklahoma. They number about 1000.

Kipling, John Lockwood (1837-1911), Eng. author and artist, and father of the celebrated novelist, Rudyard K., b. at Pickering. He was educated at Woodhouse Grove, and entered the Indian Civil Service in 1867. He was architectural sculptor at the Bombay school of art, 1865-75; principal of the Mayo school of art and curator of the central museum at Lahore 1875-93. He pub. *Beast and Man in India* (1901), a collection of Hindu and Mohammedan folk-tales, and also executed illustrations for some of his son's books, viz. *Kim*, the *Jungle Book*, and the *Second Jungle Book*.

Kipling, Joseph Rudyard (1865-1936), Eng. novelist and poet, b. in Bombay, son of J. L. K. and Alice Macdonald (d. 1910). He was educated at the United Services College, Westward Ho!, N. Devonshire. A somewhat highly coloured picture of his life there is presented in *Stalky and Co.* (1899). At the age of seventeen he returned to India and became sub-editor of the *Lahore Civil and Military Gazette*. In 1886 appeared his *Departmental Ditties*, a vol. of light satirical verse; in the following year, *Plain Tales from the Hills* (1887), and during the next two years *Soldiers Three*, *The Story of the Gadsbys*, *In Black and White*, *Under the Deodars*, *The Phantom Ruckshaw*, and *Wee Willie Winkie*. These tales quickly became famous in India, and it was recognised that a new force had come into the literary world. During the years 1887 to 1889 K. travelled through India, China, Japan, and America, and thence to England, where he arrived to find himself famous. His travels also took him to Africa during the Boer war, and to Australasia. His travel sketches were pub. in 1899 under the title of *From Sea to Sea*. In 1892 K. married Miss C. S. Balestier, the sister of W. Balestier, in conjunction with whom he wrote *The Naulahku* (1891). *Life's Handicap* was pub. in 1890, and in 1891 his first novel appeared, *The Light that Failed*, which was afterwards dramatised in 1905. *Barack Room Ballads*, verse, was pub. in 1896

and also in the same year *Many Inventions*. In 1894 a new vein was opened up by his *Jungle Book*, followed in 1895 by the *Second Jungle Book*. These masterly stories of animal life are considered by many K.'s best work. *The Seven Seas*, verse, was pub. in 1896, and *Captain's Courageous* in 1897, followed by *The Day's Work* (1898); *A Fleet in Being* (1898); *Stalky and Co.* (1899); *Kim* (1901); and *Just So Stories for Little Children* (1902). Another book of verse, *The Five Nations*, appeared in 1903, and two collections of stories, *Tales and Discoveries* in 1904, and *Actions and Reactions* in 1909. *Puck of Pook's Hill*, stories which vitalise the



I. N. A.

RUDYARD KIPLING

hist. of England, came out in 1906, and was followed by a sequel, *Rewards and Fairies*, in 1910. In 1911 K. pub. a *History of England*, written in collaboration with C. L. L. Fletcher. *Songs from Books* was pub. in 1913, and in that year also a play, *The Harbour Watch*. During the First World War K. wrote *The New Armies in Framing* (1914); *Pringles of the Fleet* (1915); *Sea Warfare* (1916); *A Diversity of Creatures* (1917), containing only two war stories, and poems, *The Years Between* (1918). K.'s son, who served with the Irish Guards, was killed at Loos, and the achievements of that regiment were commemorated by K. in *The Irish Guards in the Great War* (1923), a compilation from diaries and regimental papers. His collected verse, *Inclusive Verse*, was pub. in 1919, and after that time he pub. *Letters of Travel* (1920); *Land and Sea Tales for Guides and Scouts* (1923); *Debts and Credits* (1926); *A Book of Words* (1928); *Thy Servant, a Dog* (1930); *Limits and Renewals* (fourteen stories with introductory and supplementary sum-

maries in verse, 1932); *Souvenirs of France* (1933); *The King and the Sea* (1935); and *Something of Myself, for my Friends, known and unknown* (1936).

K.'s best work is in his short stories, and his early collection, *Life's Handicap*, is perhaps his best book. His sphere of interest was the Brit. Empire in all its manifestations, from the big drums to the humble outposts of empire in out-of-the-way places. It is the man of action that K. loved, be he engine-driver, empire-builder, or polo-player. His sphere of preference for action over the introspections of the individual, so often the subject of the modern novel, that distinguished him from his contemporaries. Some critics argue that K. portrayed only types, and not characters, but if this is true his type is always embodied in an individual; for K. was no lover of crowds, believing man to be a solitary who must work out his own salvation. K. was a romantic writer, but his romanticism is everywhere rooted in realism. In his best stories there is nothing vague or uncertain, although occasionally he gives way to a didacticism. That K. has a permanent place in Eng. literature seems certain, especially for his earlier prose and verse. But his verse is the more difficult to estimate because apart from the changing standards of poetry, K.'s own standards changed from the more youthful, confident, clarion note to at least two stages of maturity, in which latter an element of mysticism is evident. One deep source of his great popularity was a mastery of the native rhythms of Eng., which appealed to the humble ear by its directness, and both his poetry and prose stories are characterised by a remarkably vivid imagination, revealing a skill in narrative and description which are well matched by a rare power of intensifying character. The prophetic sense is a quality in much of K.'s poetry. It probably accounts for much of his influence. Impregnated as he was with the spirit of the national consciousness and the racial temperament, K. was obsessed with the conviction of Britain's noble destiny, a destiny in which the inspiring motives were, not power or domination, but moral obligations and service. In his mind's eye was a compelling vision of external forces with puny man living dangerously and valiantly amidst such forces. K. disregarded intellectual subtleties, not because he was incapable of them, but rather from an intuitive dislike based on a good understanding of their values. Mr. T. S. Eliot makes the distinction that K.'s verse ranks as 'great verse,' and not as 'great poetry,' but he does not define the latter, nor does he show how K. did not achieve it. It has been frequently objected that K.'s poetry is careless, even deficient, of beauty, and subordinates this element to the clamour of 'politics.' But the special colour-beauty of a poem of Keats is not the ally kind of poetic beauty, and to speak only of the clamour of politics is to misconceive politics generally, besides ignoring the intense sensations with which K. contemplated the role of England in the scheme of things. There is a mystic

poetry in his stories and it harmonises with the mystic realism of his verse and really what his 'politics' amounts to is a preference for ancestral instincts to the mechanical spirit which tends to sap the race of vitality.

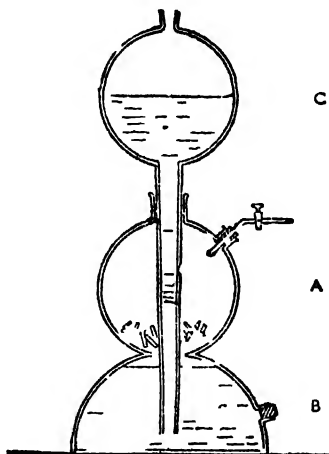
In recognition of his work K received many honours. In 1907 he was awarded the Nobel prize and in 1926 the gold medal of the Royal Society of Literature. He was also awarded honorary degrees at the univs of Oxford Cambridge Durham, Edinburgh Paris Strasbourg and Athens. He was also a doctor of philosophy at Athens and from 1922 to 1925 he was rector of the univ of St Andrews. Elected in 1933 a foreign associate member of the Académie des Sciences et Politiques an honour then shared only by King Albert of Belgium and Cardinal Mercier. K died in the Middlesex Hospital on Jan 18 1936 after an operation.

See C. Charles, *Rudyard Kipling* 1911, C. Ellis, *Rudyard Kipling* 1915, R. I. Hopkins, *Rudyard Kipling* 1921 and *Rudyard Kipling's World* 1924, I. W. Martinell, *A Bibliography of the Works of Rudyard Kipling* 1923, E. Shank, *Rudyard Kipling a Study in Literature and Political Ideas*, 1940, T. S. Lilot, *A Choice of Kipling's Verse*, 1942, and R. Croft Cooke, *Rudyard Kipling* 1918.

Kippis, Andrew (1725-96). Nonconformist minister b at Nottingham was educated for the ministry at Northampton and in 1753 he became minister of a church in Westminster. He wrote for sev magazines, founded the *Annual Register* wrote sev biographies among them that of Dr Doddridge under whom he had studied and the *Biographia Britannica* 2nd ed, but had completed only 3 vols before he d.

Kipp's Apparatus, ingenious and very useful device for obtaining intermittent supplies of various gases in chemical laboratories. The apparatus consists of three parts (see diagram) a large central bulb, A, which is connected with a receptacle, B, and a kind of large thistle funnel, C, which passes through A into B. The joint between A and B is made airtight by vaseline and the opening between A and B is narrow so that when C is inserted there is only a little space between the two. Sticks of ferrous sulphide are placed in A, sticks being used so that the substance will not fall through the narrow opening into B. Sufficient hydrochloric acid is poured in at C to fill the vessel B and overflow into A so that it just covers the sulphide. Hydrogen sulphide is immediately evolved $\text{FeS} + 2\text{HCl} = \text{FeCl}_2 + \text{H}_2\text{S}$. The gas is led out when required at the tap. When sufficient gas has been used, the tap is closed, but the acid is still covering the ferrous sulphide so that hydrogen sulphide is still being evolved. Since the gas cannot escape the pressure in A increases and in time is sufficiently great to force all the acid out of A into the top part of C. When the tap is opened again the gas rushes out, the pressure inside A becomes atmospheric, so that the acid falls from C into B, and hence into A. Thus, so long as the tap is open the acid

covers the ferrous sulphide, and the gas is generated. The apparatus is named after its inventor P. J. Kipp a Dutch chemist 1808-64.



KIPP'S APPARATUS

Kipu, see QUIU
Kiran, see PIRAN

Kircher, Athanasius. (c. 1601-80). German scholar was prof at six Jesuit colleges in his native country and from 1635 to 1643 lectured on mathematics at the Collegio Romano in Rome. His *Œdipus Ægyptiacus* (1652) promoted the study of Egyptian hieroglyphics and his *Prodromus Coptus* (1636) of the Coptic tongue. A wide knowledge of ancient and modern Italy is revealed by his *Itanium* (1661), whilst those hasty judgments and inaccuracies of which he was often guilty are patent in his *China Illustrata* (1667).

Kirchheim 1. Town in Württemberg-Baden, Germany, 16 m S of Stuttgart. It manufactures textile fabrics. Pop. 8000.
2. Vil of Baden, Germany, close to Heidelberg. Pop. 1000.

Kirchhoff, Gustav Robert (1824-87). German physicist graduated in 1846 from the univ of his native Königsberg. In 1847 he held the chair of physics successively at Breslau (appointed in 1850), Heidelberg (1854) and Berlin (1875). In collaboration with von Bunsen he evolved the theory and practice of spectrum analysis, and indicated how the prism may be used to establish the chemical composition of celestial bodies. His *Vorlesungen über mathematische Physik* (1876) contains an original treatment of dynamics.

Kirchhoff's Laws, see ELECTRICITY AND MAGNETISM

Kirchhörde, vil in Westphalia, Germany, about 4 m S of Dortmund. Coal-mining and the manu of tin are carried on. Pop. 15,000.

Kirghizia, or Kirghizstan, republic in

the E. of Russian central Asia, situated on the frontier between the U.S.S.R. and Sinkiang. The Kirghiz are a once nomadic people belonging to the Mongolian-Tartar family and divided into Kara-Kirghiz and Kirghiz Kazaks. The former recognised Russian suzerainty in 1864 and the latter in 1819. K. became an autonomous republic in 1926, and was elevated to the status of a union republic in 1936.

The inhab. are Kirghiz (who constitute about two-thirds of the pop.), Russians, Ukrainians, Uzbeks, Uigurs, and Dzungars, the last being of Chinese-Muslim origin.

The Kara-Kirghiz dwell in the highlands between the R. Issik-Kul and the Kuen-Lun, and from the E. borders of Ferghana across to the Muzart Mts. They number in all about 400,000, and are divided into two main sections, the Sol in the W. and the On in the E. The Kirghiz Kazaks inhabit the steppes between the Amu-Darya and the Syr-Darya. Both tribes are nominally Sunnites, but in reality they believe in an evil spirit, Shaitan, besides a good spirit. Physically, they resemble the Mongolians, but their speech is pure Turki. They breed fat-tailed sheep, hardy horses, camels, goats and oxen, and cultivate wheat and millet, sugar beet, fruit, and vines in the foothills and irrigated valleys. The region has large deposits of coal, oil, gold, lead, antimony, quicksilver, sulphur, and limestone. The country has been developed considerably since the First World War by the extension of land under cultivation, irrigation, and the estab. of good production and textile industries. There is fishing on Lake Issik-Kul. K. supplies coal to almost the whole of Central Asia. Frunze (formerly Pishpek), the cap., is a well-built city (pop. 93,000), with many fine buildings. Pop. 1,500,000.

Kiria, see KERIVA.

Kirin, or Kirin, prov. of Manchuria, to the N. of Korea, having an area of about 105,000 sq. m. The country itself is fertile even in the mountainous parts; millet, wheat, barley, potatoes, and opium being the chief products. Pop. 5,200,000.

Kirin, cap. of the prov. of the same name, situated on the Sungari, 215 m. N.E. of Mukden. A railway connects it with Changchun. Pop. 6,981,000.

Kirjathaim: 1. City of Reuben, taken from the Amorite king, Sihon (Num. xxxii.). The site is quite uncertain. 2. Undisputed Levite city in Naphtali, called Kartan in Joshua xxi.

Kirjath Arba, see IERBROV.

Kirjath-jearim, tn. in Palestine, situated in Judah, and identified by some with 'Erma,' and near to Bethshemesh. Here the ark rested until taken up to Jerusalem.

Kirjath-sopher, according to Judges i. 11, was the older name of the tn. which was named by the Hebs. Debir.

Kirk, Sir John (1832-1922), Brit. administrator and naturalist, b. in Scotland. He was educated for the medical profession and, after serving as a doctor in the Crimean war, went out as physician and naturalist with Livingstone's second exploring expedition (1868), and proved an unqualified success. His African ex-

periences led to his appointment as vice-consul at Zanzibar (1866), and in 1873 he became consul. It was in this capacity that he greatly distinguished himself by securing the extinction of the slave trade in the dominions of the sultan of Zanzibar. The suppression of the maritime slave trade, the first major step towards abolition, was, however, followed by the marching of slave gangs by land, and K. appealed to the sultan, Barghashi, who had previously, under threat of a naval blockade, signed a treaty prohibiting the shipment of slaves from all ports on the mainland. This time, so great was K.'s personal influence with the sultan that the latter needed no threat, and of his own volition issued proclamations prohibiting throughout his dominions both the rounding-up of slaves and their transit by land. During the twenty years of his work in Zanzibar K.'s life and the hist. of Zanzibar are almost synonymous. But in 1884 the notorious Carl Peters gained access to E. Africa in disguise, and under a false name obtained treaties from native rulers signing away their ter. to a Ger. colonisation society, and in 1885 a telegram to Zanzibar was the first indication to K. and the sultan that Germany was laying claim to any land in Zanzibar. It was in vain that K. and Barghashi resisted, for the Ger. Gov. sent a fleet to Zanzibar with a threat of bombardment, and the Brit. Gov. weakly advised the sultan to submit. This ended K.'s work in Zanzibar, for the sultan lost most of the mainland portion of his ter., and K. retired from the consular service in 1887, though he subsequently represented the Brit. Gov. at various African conferences. He was one of the first four white men to behold Lake Nyasa (Sept. 16, 1859), and his name is perpetuated in Nyasaland in the Kirk Range, W. of the Shire R. Received the gold medal of the Royal Geographical Society in 1882. His botanical collections laid the foundation of the *Flora of Tropical Africa*, which was pub. under gov. auspices, 1868-1917. See Sir R. Comland, *The Exploitation of East Africa, 1856-1890*, 1939, which is in effect a study of Kirk's career.

Kirk-Agatch (Izmir), tn. of Asiatic Turkey, 52 m. N.E. of Smyrna. It manufs. cotton goods. Pop. 20,000.

Kirkburton, tn. in the W. Riding of Yorkshire, England, about 6 m. S.E. of Huddersfield. It manufs. woollen goods, and coal mining is carried on. Pop. 18,700.

Kirkby-in-Ashfield, par. and vil. in the co. of Nottinghamshire, England, 12 m. N.E. of Nottingham. In the vicinity are coal mines. Pop. 18,500.

Kirkby Lonsdale, mrkt. tn. in the co. of Westmorland, England, on the R. Lune, 12 m. S.E. of Kenil. Pop. 1400.

Kirkby Moorside, mrkt. tn. in the N. Riding of Yorkshire, England, on the R. Dove, 6 m. W. of Pickering. It manufs. iron and brass ware and agric. implements. Pop. 5250.

Kirkby Stephen, mrkt. tn. in Westmorland, England, on the R. Eden, 10 m. S.E. of Appleby. Copper, lead, and iron

are found in the vicinity. Pop. about 4000.

Kirkcaldy, or **Kirkaldy**, of Grange, Sir William (c. 1520-73), Scottish soldier and politician, was early won over to the Protestant party, and having assisted in the murder of Cardinal Beaton (1546), took refuge in St. Andrews Castle, and, on its surrender to the Fr., became a prisoner of the enemy and was confined in Mont St. Michel, Normandy. Soon, however, he made good his escape, and after serving with distinction in the Fr. Army, returned to Scotland in 1557. At home he proved zealous in the cause of reformation, was implicated in the murder of Rizzio, and having joined the nobles against Bothwell, received the surrender of the queen at Carberry Hill (1567). Her defeat at Langside in the same year was largely the outcome of his able strategy; but henceforward, prevailed on, it seems, by the plausible arguments of the subtle Maitland of Lethington, he became Queen Mary's stalwart champion. As governor of Edinburgh Castle he proceeded to fortify it for the royalist faction. In 1572 he broke off negotiations with the Regent Morton, preferring to stand 'stiff upon his honesty' and not betray his friends. He surrendered on June 3, 1573, and was executed at the cross of Edinburgh.

Kirkcaldy, seaport tn. of Fifeshire, Scotland, situated on the Firth of Forth, 15 m. N. of Edinburgh. The tn. itself has been called the 'Lang Toun,' its main street being about 1/2 m. long. This tn. is the centre of jute-manuf., and is also engaged in bleaching, linen-manuf., engineering, iron-founding, and the manuf. of pottery. It was created a royal burgh about the year 1450, and, with Kinghorn, Burntisland, and Dysart, sends one member to Parliament. It was the bp. of Adam Smith. Pop. 46,600.

Kirkcudbright: 1. Maritime co. in the S. of Scotland. The coast is rocky and much indented, containing caves originally used by smugglers. The surface of the co. is mountainous, the chief height being Mt. Merrick (2764 ft.). The chief rivers are the Dee, Urr, and Fleet. Granite is quarried in the co., and the pasturage is good, the rearing of cattle—especially of the polled Galloway breed—forming one of the industries. K. is noted for its honey. The chief tns. are Castle Douglas, Dalbeattie, and Kirkcudbright. Area 899 sq. m. Pop. 33,900. 2. Co. tn. of Kirkcudbrightshire, Scotland, situated on the l. b. of the Dee. It has the best harbour in the S. of Scotland, and contains an old church and sev. other ant. structures. Pop. 2800.

Kirkdale Cave, cavern in a limestone rock in the N. Riding of Yorkshire, about 1 1/2 m. W.S.W. of Kirby-Moorside. This cave, which was discovered in 1821, contains the fossil remains of animals, among which are the hyæna, tiger, and hippopotamus.

Kirkenes, vil. in Finnmark, Norway, near the Finnish border, on the shore of Vasanget Fjord. It was the main Ger. base for submarine attacks on allied convoys to Murmansk in the Second World War. Captured by the Russians in Oct. 1944.

Kirkham, mrkt. tn. in the co. of Lancashire, England, 8 m. W.N.W. of Preston. It is engaged in the cotton and linen manuf. Pop. 4400.

Kirkintilloch, tn. in the co. of Dumbarton, Scotland, 7 m. N.E. of Glasgow. It has coal mines and iron foundries, and manufs. chemicals. Pop. 13,800.

Kirklarrell, formerly **Kirk-Killiss**, tn. of European Turkey, about 33 m. E. of Adrianople, in the vilayet of the same name. For a time after the First World War it passed into Gk. possession, but was restored to Turkey by the treaty of Lausanne, 1923. Near this tn. was fought the first battle between the Bulgarian and Turkish forces during the Balkan war of 1912-13 (q.v.). It is an agric. centre, and trades in coal, wines, flour, hides, and tobacco. Pop. (vilayet) 178,300; (tn.) 20,700.

Kirkless, vil. in the W. Riding of Yorkshire, England, 4 m. N.E. of Huddersfield. Here are situated the ruins of a Cistercian nunnery of the twelfth century.

Kirkley, vil. on the coast of Suffolk, England, forming a suburb of Lowestoft.

Kirkliston, vil. in the co. of W. Lothian and Midlothian, Scotland, on the lt. Almond, 10 m. W. of Edinburgh. It has distilleries, shale mines, and a malt extract factory.

Kirkmaiden, par. in Wigtownshire, Scotland, situated on Luce Bay and in the peninsula of Galloway. It is the most southerly point of Scotland, and is mentioned as **Maldenkirke** in the expression signifying from extreme S. to extreme N. of the country, i.e. 'from Maldenkirke to John o' Groat's.' Pop. 1550.

Kirk o' Shotts, see SHOTTS.

Kirkoswald, vil. in the co. of Ayrshire, Scotland, 4 m. S.W. of Maybole. This vil. contains the tombs of the ancestors of the poet Burns, who himself resided here for a year.

Kirk Session, see PRESBYTERIANISM.

Kirkstall, vil. in the W. Riding of the co. of Yorkshire, England, 3 m. N.W. of Leeds. Here are situated the ruins of Kirkstall Abbey, built in the twelfth century.

Kirkville, city in the co. of Adair, Missouri, U.S.A. It is situated on two railways, manufs. iron goods, and has a trade in agric. produce. Pop. 10,100.

Kirkton, see CREDDON.

Kirkuk, tn. of Iraq, in the vilayet of the same name, 115 m. N. of Bagdad. It has valuable oil wells, and a trade in naphtha and salt. Its mosque is said to contain Daniel's tomb. Pop. of tn. 92,000 (most of whom are of the Sunni religion); vilayet 262,200.

Kirkwall, seaport tn. and the cap. of Orkney, Scotland, situated on the N.E. coast of Pomona or Mainland. The chief buildings of interest are the cathedral of St. Magnus, dating from medieval times, the earl's castle, and bishop's palace. K. possesses an excellent harbour. Distilling and boat-building are engaged in, and the tn. is important for shipping and fisheries. Pop. 3500.

Kirkwood, Daniel (1814-95), Amer. astronomer, was prof. of mathematics at

Delaware College (1851), and in 1856 accepted a similar post in the univ. of Indiana. He asserted that the unequal distribution of asteroids was due to the attractive force of Jupiter. K. also pointed out that the magnitude of the interval between any two planets was incompatible with Laplace's nebular hypothesis. Between 1867 and 1888 he pub. *Comets and Meteors and Asteroids*.

Kirman, see KILIMAN.

Kirmanshah, see KERMANSHAH.

Kirn: 1. Tn. in the Rhineland, Germany, 40 m. S.W. of Koblenz, on the Nahe. It is engaged in the woollen manuf. Pop. 8,000. 2. Watering-place in the co. of Argyllshire, Scotland, on the frith of Clyde, adjacent to Dumoon. Pop. 3300.

Kirov (formerly Viatka), cap. of the K. Region of the R.S.F.S.R., on the Viatka, 200 m. N. of Kazan. It has a trade in leather and sheepskins. Pop. (tn.) 143,100; (region) 2,200,000.

Kirovabad, tn. in the Azerbaijan S.S.R. near the railway from Tiflis to the Caspian Sea. There are cotton mills. Pop. 98,700.

Kirovograd, formerly Elizavetgrad or Yelizavetgrad, and t.l. Zinoviesk, cap. of the K. Region of the Ukrainian S.S.R. on the R. Ingul, 135 m. N. of Kherson. It is on the Kharkov-Odessa railway, and is the centre of a textile dist. where fruit, especially melons and tobacco are grown. It has (1940) an important local trade in goods imported from Odessa. Many remains of antiquity are found in the neighbourhood. It was renamed after Zinoviev (q.v.) and then changed to its present name. Pop. (tn.) 100,300; (region) 600,000,000.

Kirriemuir, par. and mrkt. tn. of Angus, Scotland, stands on the Gowrie Burn, 5in. W.N.W. of Forfar. It manufs. brown linen, and is celebrated as being the 'Thrums' of Sir J. M. Parrie's novels and the author's bp. Pop. 1,000.

Kirsanov, dist. and tn. in the Tambov Region of the R.S.F.S.R., 60 m. E. of Tambov; it trades in grain, hides and cattle. Pop. 600,000.

Kir-shehr, or Kirshehr, 93 m. S.E. of Ankara, tn. of Asiatic Turkey, in the vilayet of the same name, 325 ft. above sea level. Noted for carpets. Pop. (tn.) 13,700; (vilayet) 137,700.

Kirsinlon, see KILBYRON.

Kirwan, Richard (1733-1812), Irish chemist, whose experiments on the specific gravities of saline substances promoted methods of analytical chem and won for him the Copley medal in 1782. Supported the phlogiston theory of combustion (q.v.), but later was won over to the views of Lavoisier (q.v.). Wrote *Elements of Mineralogy* (1784—long a standard work); *An Estimate of the Temperature of Different Latitudes* (1787); and *Geological Essays* (1799).

Kiryu, tn. in the prov. of Kotsuki, Japan, 60 m. W.N.W. of Tokyo; has manufs. of silk, gauze, and rapso. Pop. 53,000.

Kisauai, see FREE TOWN.

Kisfaludy, Károly (1788-1830), Hun-

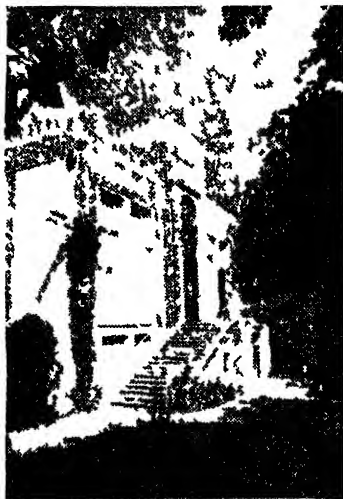
garian poet and dramatist, b. at Tété. Served in the army (1804-9), writing poetry meanwhile. He then settled in Vienna, intending to follow painting, but the success of two of his plays caused him to turn to literature. He won the reputation of being the father of Hungarian drama and of modern Hungarian literature. With his brother he founded a literary periodical, *Aurora*, and subsequently an Aurora Society, which became a centre for young writers. After his death this society developed into the Kisfaludy Társaság, Hungary's leading literary society. His works include *Gyilkos* (1808); *Kübra Zách* (1812); *Tika* (1819); *A Jádorok magyarországi* (1819); *Irene* (1820); *Szibor rajda* (1820); *Szeresi Mária* (1820); *A Part ulok* (1820).

Kish (Kisch) (modern name El Oshelmir), ant. and buried city of Chaldea. Excavations at the site, Talal-Uhalmer (little red mound) (and at Ur (q.v.)), have, according to the eminent Assyriologist, F. Dornier, director of the Pr. Biblical and Archaeological School of St Stephen, Jerusalem proved the historical fact of the Babylonian deluge, which resulted in dividing civilisation into two distinct epochs. The Oxford (Weld) Field Museum (Chicago) expedition, which carried out the excavations, discovered vast remains of a temple stated to be tant of the earth goddess Aruru. This temple the walls of which, 16 ft. high and 12 ft. thick, took some nine years to excavate, was begun by the early Sumerian kings, some 4800 years ago, and it stood for 2300 years as a monument to the earliest civilisation in Iraq after the deluge. The recurrent floods of centuries only partly buried it in silt, and when Nabuchadnezzar came to build his Birsagkalama temple, he merely levelled the walls of the temple of Aruru and built his structure upon them. The remains of Aruru's temple reveal two massive stage towers, hitherto only imagined by artists, round the exterior of which wound spiral platforms. In the larger were found brick tombs of nobles and princes, chariots with the animals that drew them, the copper rein-reins and other metal parts of the harness all lying beside the skeletons of the dead. In another clearing near the great N.W. gate of the temple were found inscribed tablets dated in the period of the Sargon dynasty of Agade (2332-2549 B.C.), large numbers of cylindrical seals, some of lapis-lazuli, of all periods from 3000 to 700 B.C., and sculptures of the age of Hammurabi. See S. Langdon, *Excavations at Kish*, 1924.

Kishangarh, tn in India, the cap. of the native state of the same name, which in 1947 joined the union of Rajasthan. Pop. 14,100.

Kishinev (Rumanian, Chisinau), tn. in Bessarabia, Russia, cap. of the Moldavian S.S.R. which was formed in 1940 from ter. in Moldavia and Bessarabia formerly part of the Russian Empire, and retroceded by Rumania to Russia in June 1940. It stands on a trib. of the Dniester, 120 m. N.W. of Odessa. The chief exports are grain, hides, tallow, and tobacco. K. was

the scene of serious anti Semitic riots in 1903. In the Second World War the Russians outflanked it in April 1944 but the garrison held out for some months. On Aug. 20 the Russians launched a great new offensive towards the pivotal points of Jassy and K. K. was completely outflanked by Marshal Tolbukhin who then joined up with the left wing of Malinovsky's army and K. was captured in a joint advance on Aug. 24 (1944) a victory which precipitated a political crisis in Rumania and soon caused the country to turn against the Axis (q.v.).



* See a Weekly

KISHINEV: THE LOCAL HISTORY MUSEUM,
BUILT IN 1895

Kishm (Qishm), or **Tavilah**, barren is in the strait of Ormuz, Persia. It is about 70 m long and 4 m broad, and produces sulphur and salt. K. (au t. *Ourata*), the chief tn., is the residence of a sheikh. Pop. 15,000 tn. 4000.

Kishoregunge, or **Kishorigani** tn. of E. Bengal, Pakistan, in the Maimansingh dist. Pop. 15,000.

Kis Körös, tn. in Hungary 28 m SW from Kiskemet, is celebrated as the bp of Petőfi. Pop. 12,000.

Kiskunfelegyháza, see **FFLEGYHAZA**.

Kiskunhalas, see **HALAS**.

Kiskunmajsa, see **MAJSA**.

Kiskunság, see **CVANIA**.

Kislovodak, largest of sev. large health resorts of the so-called mineral water group of spas in the N. Caucasus, Russia. Stands 2878 ft above sea level with a mean Jan. temp. of 24°K and mean Aug. temp. of 66.5°. It produces bubbly mineral water called *narzan* known all over Russia and renowned in fable and song many centuries ago to bathe in it is supposed to be excellent for persons who have bad

hearts or are too obese. K. is indeed a great health factory, designed to cater for the well being of valued executives, engineers, or workers in need of rest or treatment. Pop. 51,200.

Kismayu, port in It. Somaliland, stands near the mouth of the Juba R. in a district inhabited by Somali tribes. It has an excellent harbour. It was ceded to Italy by Britain in 1915. Captured by the Brit. forces in their campaign in 1941 against It. E. Africa. Pop. 3000.

Kismet (Turkish from Arabic *qismet* fate from *qismah* to apportion) meaning 'fate' a word made use of by Mohammed when he preached in the Koran the duty of submission to all that God has ordained. He believed that a man's every action was predestined yet he never suggested the folly of not struggling against an adverse doom. The doctrine of K. has prompted Mohammedans to the utmost heroism and fortitude in the cause of their religion.

Kiss, form of salutation or an expression of reverence or love which consists in pressing or touching with the lips the lips, cheek, hand or feet of another. Newly appointed earl in his kiss the sandal on the pope's right foot as a symbol of veneration and the K. of peace (*scilicet pacis*) is still a part of the ritual of the mass in the E. and Rom. Church. See **C. Beadnell** *The Origin of the Kiss* 1942.

Kissavos, see **OSZA**.

Kissingen, Bad, popular watering place of Bavaria, Germany, stands on the Saale 29 m N by R. of Würzburg. Its famous saline chalybeate springs were known in the ninth century; the waters are used in cases of dyspepsia, gout, etc., and large quantities are exported annually. Salt is mined near by. Pop. 3500.

Kistna, or **Krishna**, 1. Dist. of Madras, India, which contains the delta of the R. K., the chief tn. is Masulipatam. Pop. 2,000,000. 2. Riv. of S. India rises in the W. Ghats 40 m from the Arabian Sea at its source is an ancient temple to which large numbers of pilgrims resort. From here the riv. flows through the Bombay Presidency and drops steeply from the tableland of the Deccan receiving its two chief tribs., the Bhina and the Tungabhadra. It formed the boundary between Hyderabad and the Madras Presidency, and enters the bay of Bengal by two mouths an immense delta. Its total length is 800 m., but its course is too rocky and rapid for navigation.

Kistrin, see **KUSTRIN**.

Kisujzallas, tn., with magistracy in Hungary 4 m SW of Debrecen.

Kisumu, formerly known as Port Florence, a port of Kenya (colony) (q.v.) E. Africa (up of the prov. of Nyanza), stands on Lake Victoria of which it is the chief port. It is the terminus of a railway to Nairobi and Mombasa. The tn. is the centre of the Kavirondo (see also **KENYA**) people and much labour is recruited here. Once a malarious centre but a great improvement has been effected. There is a great acrotrone on the opposite shore of Kavirondo Gulf. Pop. (white) 150, (Asiatics) 1400.

Kit term used for a soldier's outfit. A recruit on joining the army is provided gratis with underclothing razor brushes towels mess tin knife and fork and cleaning materials and these things constitute his kit. It is his duty to keep them in good order and to obtain new articles as occasion arises. In popular language his uniform and other outward accoutrements are often erroneously included in his kit.

Kita, tn of Ir W Africa (Er Sudan) in Senecambia, NW of the Niger. It is a fortified military station. Pop 2700.

Kit Cat Club, founded in 1703, ostensibly to encourage literature and art and named after Christopher Cat (or Katt) at whose tavern it met. It ultimately became a Whig society to promote the Hanoverian succession. Among its original thirty-nine members were Marlborough Walpole Addison Steele and Congreve. The number was later increased to forty-eight. Kneller was one of them and painted the portraits of forty-four members under the direction of Jacob Tonson who was secretary and general manager of the club. In 1743 the National Art Collections Fund purchased 11 portraits for the National Portrait Gallery. In a poem of 1708 on the club and its founder we read:

All the first members for their Place were fit.

The 'not of Little Men of Sense and Wit.

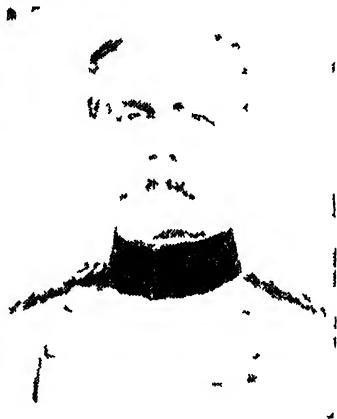
But eventually one half of the forty-four were men of title including nine dukes. The three most notable of the five lords of the Whig Junto Wharton and Somers and Montagu Earl of Halifax were Kit Cats. See 'Kit Cat Club Portraits' by G. M. Trevelyan *The Times* March 10, 1945.

Kitchen, see under COOKERY, HOUSEWIFERY.

Kitchener, Horatio Herbert Viscount of Khartoum and Aspell in Suffolk (1800-1916) b at Bully Ingford, Ireland the eldest son of Lieut Col H H K. After studying at Woolwich he entered the Royal Engineers in 1821. He was engaged on the Lake time Survey (1874-78) and then on that of Cyprus (1878-82) after which he entered the Egyptian Cavalry and took part in the Sudan campaign of 1883-84 for the relief of Gen Gordon attaining the rank of lieutenant colonel. He became governor of Suakin in 1896 and Sirdar of the Egyptian Army in 1900. In that capacity he recovered Dongola in 1896 for which he was made major general and KCB and two years later came his crowning success in Egypt in the expedition which he organised against the power of the Khalifa. In April 1898 he defeated the dervishes at the Atbara and in the following Sept he won the decisive victory of Omdurman, capturing Khartoum, and completely overthrowing the power of the Khalifa. For these services he was raised to the peerage and Parliament voted him the sum of £30,000. He was presented with the freedom of the city of London and a sword of honour, and he received the degree of DCL from Oxford.

Univ. During his brief stay in England at this time he raised by subscription the sum of £100,000 to found a college for natives in Khartoum in memory of Gen Gordon. The victory of Omdurman was followed by immediate pacification and by the most skilful handling of the situation at Fashoda (qv).

When the S. African war broke out K went (Dec 1899) to S. Africa as chief of staff to Lord Roberts and had a large share in organising the victorious campaign that followed. When Lord Roberts returned home in Nov 1900 K assumed supreme command with the rank of lieutenant general and brought the war to a successful conclusion by means of a system of block houses and extensive 'drives.'



LORD KITCHENER

introduced to combat the guerrilla tactics of the Boers. Assisted by Lord Milner he arranged with the Boers the terms of the peace which was signed on May 31, 1902. He was promoted to the rank of viscount in the 1902 New Year Honours. He was voted him a sum of £10,000 and thanked him for his services. In Nov of the same year (1902) he went to India to take over the chief command of the forces there where he remained till 1903. It was due to his reforms in higher administration pay and furlough that the Indian Army was eventually able to play so effective a part in the First World War in nearly all theatres of operations. After leaving India K became commander in chief in the Mediterranean and was raised to the rank of field marshal. He also about this time went to Australia and planned the reconstitution of the Commonwealth forces. In 1911 after commanding the troops in London on the occasion of the coronation of King George V he was made a knight of St. Patrick. At this stage in his career his appointment as ambas to Constantinople was mooted, in which capacity he might have been highly

effective in thwarting the Ger. plans which ultimately brought Turkey into the First World War against the Allies; but certain influences which had kept him out of the office of Indian viceroy also prevailed against him in this instance. He was then appointed to take over the work of agent and consul-general at Cairo, where he had an opportunity of displaying his fine qualities as an administrator. In July 1913 the khediv, on his advice, granted a parl. constitution on a more democratic basis.

It was when he was at home from Cairo on leave that the First World War broke out, and it was with the universal approbation of the Brit. people the world over that he was appointed to be war minister at Whitehall. His long contact with the E., coupled with the strangely romantic circumstances of his career, had unquestionably a strong influence on his habits and general bent of mind; and the fact that he had always worked alone and with but slender financial resources from Lord Cromer's budgets, had thrown him on his own initiative to a remarkable degree, and made him at the same time intolerant and even contemptuous of criticism. All unconsciously he had become a westerner with an E. mind—a mind delighting in E. modes of thought and methods of work. Neither the politicians at home nor the departmental chiefs at the War Office understood him; and it was averred by those who had known him of old that minds at home were poisoned against him. If devoid of ambition himself, others around him were not; and furthermore, his habitual practice of doing everything himself and of ignoring press and departmental criticism was incompatible with the thought of a democratic country, especially at a time when the country was endeavouring to adapt itself to the requirements of a national war. His acquaintance with the diplomatic interchanges immediately preceding the outbreak of the war was slender in the extreme, though he contrived to acquire some kind of knowledge *ad hoc* of European military thought, organisation, and strategy.

It was in these circumstances that he set about the performance of his great achievement—the creation, amidst the anxieties of war, of those great new armies which stemmed the tide of the enemy's successes until such time as conscription was to restore the balance. His instructions to Gen. French after the battle of Mons, to remain in the line and to abandon his expressed intention to retire behind the Sene so as to protect Paris, were amply justified by subsequent military events, though it is to be said for Gen. French that his intention was in accord with Cabinet orders to save his army from isolation by overwhelming numbers, as at Mons. Less justified were K.'s later instructions to Gen. French to abandon the Fr. Channel ports rather than lose contact with the Fr. Armies, because, even if theoretically sound, the Brit. forces were never actually in that dilemma, or at all events the choice was not so open then as it was

to prove in 1918, when the Gers. were at the gates of Amiens. The raising of the Kitchener or new or service battalions was K.'s great contribution to winning the war, and it seems probable that he was the only man in England whose name and fame stood sufficiently high in the opinion of his fellow countrymen to ensure an adequate response to his call for volunteers. Voluntary recruiting, urged by the magic of K.'s name, added no fewer than 1,700,000 men to the ranks by May 1915. Up to this point K. was omnipotent at the War Office and in the war committee, particularly as all the best Brit. military brains were then in France. The necessities of the situation demanded, however, that one man, however eminent his talents, should not attempt to combine the role of war secretary and chief of staff, the functions of administrator and strategist being entirely distinct, and the blunders in the Dardanelles were referable to this confusion of roles and to the lack of first-class strategic direction on the general staff.

After the failure at the Dardanelles a reaction, fomented by a section of the press in conjunction with politicians, set in against K. The Cabinet grew hostile towards him. He went to the Mediterranean late in 1915, and, when there, was invited to take control in Egypt—a hint to resign the seals of office. This he did, after sending Gen. Horne to take command in Egypt in his stead. Mr. Asquith, as ever the most honourable of ministers, refused the resignation, and K. remained in office, though Sir Wm. Robertson returned from France to become chief of staff. It is generally agreed that both K. and Asquith—the former in his ministerial capacity—unduly delayed the transition from voluntary recruiting to conscription, but the question was essentially a political one, and it is to the credit of K. that he had at all events created vast new armies to meet the nation's needs, no fewer than 3,000,000 men voluntarily enlisting in his 'service' battalions. When his tragic loss on June 5, 1916, in the *Hampshire* became known, the sorrow of the people was the most striking tribute to his memory possible.

See R. B. Esher, *The Tragedy of Lord Kitchener*, 1921; V. Gervais, *The Truth about Kitchener*, 1925; E. Carl, *One against England: the Death of Lord Kitchener and the Plot against the British Fleet*, 1935; also lives by Sir G. Arthur, 1920, and G. Hodges, 1936. For the plans for his national army see *The Times*, Aug. 15, 1915.

Kitchener, co. tn. of Waterloo co., Ontario, Canada, 60 m. W. of Toronto and 90 m. N.W. of Niagara Falls. It is on the Canadian National Railways, with electric railway to Canadian Pacific Railway at Galt, 10 m. S.E. It lies at an altitude of 1100 ft. in the fertile valley of the Grand R., in a rich agric. dist., and is the market centre for the tns. of Elmhurst and Waterloo, and the vils. of New Hamburg, Baden, Erbsville, and others. K. was first known as the Sand Hills in a community called Ebytown. The name Berlin was adopted in 1826. Berlin was

incorporated as a tn. in 1871 and as a city in 1912. In 1916 the name was changed to K. in commemoration of Lord K. of Khartoum. Its city hall is in the centre of a large public square, in which the war memorial has been erected. A 'living memorial' to the men and women who gave their lives in the two world wars will be the auditorium. A new armoury will complement the auditorium as the second major building in the city's proposed community centre. The federal building is an imposing structure and one of the newer co. buildings is the registry office. K. has thirty-eight churches, the K.-Waterloo collegiate and vocational school, which is now being extended at a cost of \$1,000,000, a Rom. Catholic college, St. Mary's business college, many primary schools, a public library, two large hospitals (improvements costing \$2,100,000 to the K.-Waterloo hospital are in course of construction), a Little Theatre, philharmonic choir, and symphony orchestra. The giant Shand dam holds back the Grand It's springtime torrents and creates the seven-mile Lake Bolwood. There are sev. parks and the rockery is one of the outstanding local beauty spots. The outdoor swimming pool is one of the largest in the dominion. A modern community airport is being built. There are two radio stations. K. is a most highly industrialised city and ranks ninth in the dominion from the standpoint of industrial production. It has about 170 manufacturing establs., the leading plants including rubber tyres and footwear, gloves, tanning, and leather shoes. The heavy metal industries produce fans and ventilator equipment, car seat springs, trucks and trailers, wood-working and shoe machinery. Other products are veneer, fine furniture, radios, twines and ropes, textiles and shirts. There are also large meat-packing establs. Waterloo adjoins K. It was the b.p. of Wm. Lyon Mackenzie King. Pop. 40,800. Kitchen Gardening, see GARDENING.

Kitchen Middens, Kitchen Mounds, Shell Heaps, or Shell Mounds (*Afjokkenmoddingen*), names given to what were, in reality, the refuse heaps of various prehistoric peoples. Until 1860 they were believed to be raised beaches, or glacial deposits, and little notice was taken of them. Prof. Steensrup, a Dan. archaeologist, found that though the mounds he examined were largely composed of shells, yet they also contained fragments of animal and bird bones, rough pieces of pottery, and implements of stone and wood. In some cases a considerable amount of burnt earth was also found, as well as stones showing the marks of fire, suggesting the stones put under the cooking-pot by gypsies to this day. Among the shells he found those of the oyster, mussel, periwinkle, and cockle—molluscs which have never been known to live together under the same conditions. Two other facts—that the shells all belonged to well-grown animals, and the entire absence of gravel in any heap—proved that the natural theory was wrong, and the conclusion came to by him and two other Dan. profs.,

Worsaae and Forchhammer, and since then by many eminent archaeologists, was that these heaps had been formed by early man and woman as they throw away those parts of their meals which they found it impossible to eat. In Europe they have been discovered on the coast of the Brit. Isles, in Cornwall and Devonshire and Scotland, in France, Sardinia, and Portugal. They are also found on many parts of the coast of N. and S. America, Australia, and Japan. Some of the largest middens measure as much as 1000 ft. in length, 200 ft. in breadth, and 10 ft. in depth; but most are much smaller. In Florida some of the middens examined have measured as much as 10 ft. in height.

Kite, name popularly given to *Milvus icetus*, a species of Falconidae. It is now distributed through Europe, Palestine, Asia Minor, and N. Africa, and will breed occasionally in certain parts of N. and W. Britain. Three or four centuries ago these birds were found in great numbers in the streets of London, where they acted as scavengers. *M. icetus* is generally distinguished as the red K., its general colour being reddish-brown, with tail-feathers of a light red, barred with brown; the bill is black and strongly curved; the deeply forked tail is capable of great expansion, and ensures the rapid, graceful flight which is such a marked feature of this bird. The habits of the K. are gregarious and sluggish, and its food consists of offal, small birds, fishes, insects, etc. Its nest, which is formed largely of rags and other rubbish, is generally placed in the cleft of a tree. *M. ater*, the black K., is very common in some parts of Europe. *M. govinia* is the parish K. of India; *M. agilis* is an Australian species; and *M. melanotis* is confined to E. Asia.

Kites (so called from resemblance to the bird, cf. Ger. *Drache* (dragon), kite), light frames of varying shape, on which some material, such as paper, silk, etc., is stretched. A cord is attached and the K. is flown in the air, the cord being let out as it ascends. When made of the common diamond shape, or triangular with a semicircular top, K. have a 'tail' attached for balancing purposes. The invention of K. is ascribed by tradition to Archytas of Tarentum, in the fourth century B.C., but there is no doubt that long before this time K. had been known to the Asiatic nations and to some savage tribes. The origin of the practice of kite-flying is obscure; it is perhaps religious, and certainly still partakes of such a nature among the Maoris. The pastime has always been the national one of the Korean, Chinese, Jap., Tongkinese, Annamese, Malay, and E. Indian nations. K. was used for scientific purposes in 1749 and in 1752, when Benjamin Franklin's famous electrical experiment was carried out, but their widespread use for meteorological and military purposes may be said to date from the later years of the nineteenth century. At the present time many observatories in the United Kingdom and America make constant use of K. to record not only the temp., but also the humidity of the atmosphere and the velocity of the wind at

various altitudes. The K. used are mostly box or Hargrave K., so called after their inventor. They are in shape like a box, with the two ends and the middle of each of the sides removed. The sail-area of the K. used varies from 30 to 80 sq. ft. Steel piano-wire is generally used, as it combines thinness with strength. The method of sending up K. is as follows: The first K. is launched with the self-recording barometers, anemometers, etc., either inside or just below it, and the wire is paid out at about 3 m. an hr. until the K. is as high as is safe, considering its sail-area, etc. Another K. is then fastened to the end of the first wire, and so on, according to the height it is desired to reach. The length of $\frac{3}{4}$ -in. wire that one K. will raise may be taken, on the average, as 1000 ft. for every 10 ft. of lifting surface. From a military standpoint K. are useful for signalling purposes, for carrying up lamps, flags, etc., for photographic purposes, and in the place of a captive balloon. When used for photography the shutter of the camera which they carry may be operated by a clockwork apparatus or an electric wire, etc.

Kits Coity House, see under DOLMEN.

Kittatiny, see under BLUE MOUNTAINS.

Kittel, Rudolf (1853-1929). Ger. Protestant theologian, b. at Enningen, Württemberg, prof. of O.T. studies at Leipzig Univ. (1898-1921), and editor of the actual Heb. ed. of the O.T., and of numerous commentaries. Works include *Geschichte der Hebräer* (1892-92, pub. as *Geschichte des Volkes Israel*, 1923-29); *Biblia Hebraica* (1905 ff., 1929 ff.); *Die Religionswissenschaft der Gegenwart in Selbstdarstellung* (vol. 1, 1925); and *Die Völker des vorderen Orients*, 1931.

Kittery, seaport tn. of York co., Maine, U.S.A. It is situated at the mouth of the R. Piscataqua, opposite Portsmouth, about 46 m. S.S.W. of Portland. There is a busy coasting trade and fishery. Pop. 5400.

Kittiwake, bird of the gull family, genus *Rissa*. The chief character which distinguishes the Ks. from the rest of the gulls is the rudimentary condition or absence of the hind toe. The chief species are the familiar Brit. species *R. tridactyla*, with dark brown feet and white under wing-coverts, and *R. brevirostris*, from the N. Pacific, with vermilion-coloured feet and grey under wing-coverts. A third form, *R. pollicaris*, with a slightly more developed hind toe than in normal *R. tridactyla*, is recognised by some Amer. naturalists and is mostly found in the N. Pacific. The K. is about the same size as the black-headed gull and breeds in vast numbers in Greenland and Spitzbergen. It is a good swimmer and feeds chiefly on fish. The young K. is called a tarroch.

Kitzingen, tn. of Bavaria, Germany, in the prov. of Lower Franconia, on the R. Main, 10 m. E.S.E. of Würzburg. Pop. 11,000.

Kiukiang, treaty port in the prov. of Kiangsi, China. It is situated on the r. b. of the Yangtze-kiang, 130 m. S.E. of Hankow. Tea, tobacco, fibre, paper

porcelain, and cotton are exported. This city has also a foreign settlement. Pop. 60,000.

Kiungchow, tn. of China, on the is. of Hainan, belonging to the prov. of Kwangtung. Its port is Hoihow, situated about 3 m. away, which was opened to foreign trade in 1876. Pop. 47,000.

Kiushiu, **Kiusiu**, **Kimo**, or **Kyushu**, the most southerly of the three prin. is. of Japan, in the Pacific Ocean, separated from Korea by the strait of Korea, and from Honshiu (Hondo) is. by the strait of Shikoku. It has an area (including small adjacent is.) of 16,201 sq. m., and is mountainous, though not remarkable for lofty peaks. Aso-take, an active volcano, has the largest crater in the world. The is. is subject to earthquakes on the Pacific coast, and has a varied climate, the summers are hot and winters very cold, the months of July and Aug. being especially marked by the oppressive heat at sea level. The occurrence of the rice famine in 1869 in K., when the people perished from hunger on account of the lack of transport facilities, was largely responsible for the introduction of a railway system into Japan. A line now runs from Muji in the N. to Kagoshima in the S., a distance of 233 m., and another from Muji to Nagasaki, 164 m. A tunnel, 7 m. long, under the Muji-Shimonoseki Straits, to connect K. by railway with Honshiu, was begun in 1920. Coal is found in the is., copper also is mined, and rice, wheat, beans, tea, and tobacco are grown. Pop. 9,552,000. See also JAPAN; PACIFIC CAMPAIGNS, OR FAR EASTERN FRONT IN SECOND WORLD WAR.

Kiustendil, see KUSTENDIL.

Kiutsingtu, see CH'UNGCHING.

Kivi, **Aleois** (real name **Aleois Stenwall**) (1831-1872), one of the best writers of modern Finland, and one of the founders of its real native style, b. 1831, at Nurmijärvi, of true peasant stock. K. will live because of his great novel *The Seven Brothers* (1870). It is the story of seven peasants who go into the Finnish wilderness and carve out for themselves a demesne. All Finnish peasant life is there—the recklessness, the strong drink, the accessions of remorse and religious feeling, the love of nature and the chaso, the riotous humour. A Finnish literary society had the book printed, and, after being withdrawn from sale, it was acclaimed after K.'s death as the greatest modern production of Finnish literature. See life by V. Tarkonen (3rd ed.), 1916.

Kivu, lake of the Belgian Congo, S. of Lake Edward and N. of Lake Tanganyika, into which it discharges by the R. Rusizi. It lies, at an elevation of 5000 ft., among very lofty mts., some still actively volcanic, and is said to be the most beautiful and picturesque of African lakes. The tn. of Goma stands on its N. shore. K. gives its name to an administrative dist. The highlands around it, being free of tsetse fly, are good grazing ground for cattle.

Kiwi, see APTERYX.

Kizil-Kum, sandy desert in Kazakh S.S.R. and Kara-Kalpak S.S.R. between the Amu-Darya and Syr-Darya riva. It

extends in a south-easterly direction from the sea of Aral.

Kizil-Uzen, riv. of N.W. Persia. It rises in Ardelan, flows N. through Azerbaijan, then S.E., and finally N.E. through Gilan into the Caspian Sea, E. of Resht. Length 450 m.

Kizlyar, tn. of Russia, in the Daghestan autonomous S.S.R., on the R. Terek, 50 m. up from the Caspian Sea. The vine and fruit are cultivated here. Pop. 8000.

Kjellin Furnace, see under IRON AND STEEL.

Kjerulf, Halfdan (1815-68), Norwegian composer, b. in Oslo (then Christiania), son of a high gov. official. Educated for a legal career and graduated at Christiania Univ. On the death of his father he was able to devote himself to music. Actually he began his career as a teacher of music and composer of songs without ever having seriously studied music at all and he did not win recognition for nearly ten years. Then, however, like Grieg, he received a gov. grant to enable him to study abroad. His fame rests mostly on his mainly national part-songs and solos, but he also composed some charming piano-forte music.

Kjöbenhavn, see COPENHAGEN.

Kjolen Mountains ('*ky*'), i.e., the keel), name given to the main mt. system of the Scandinavian peninsula, which consists of a vast plateau grooved by deep valleys. These mts. run N. and S. and form the backbone range which divides the two kingdoms of Norway and Sweden.

Kladno, tn. of Czechoslovakia, about 15 m. N.W. of Prague. It possesses iron- and coal-mines. Pop. 40,600.

Klagenfurt, cap. of Carinthia, Austria, on the Glan R., 40 m. N.W. of Ljubljana. The city was founded in 1279, and it possesses an anct. cathedral (1579), the Rudolphine museum, and a statue of Maria Theresa. Its proximity to the Worthersee and the Karawanken range make it a popular tourist centre. In the suburbs (Anabichel and St. Nikolaus) there are manufact. of leather, machines, chemicals, cloth, and tobacco. It was occupied by the Yugoslavs in 1941, but by a plebiscite in 1920 it was included in Austria. Pop. 61,900.

Klaipeda, see MEMEL.

Klamath, riv. of California, U.S.A., rising in the S. part of Oregon and flowing through Klamath Lake. It assumes a south-westerly direction, and empties itself into the Pacific Ocean. Its course, which lies in a mountainous country, is through narrow cañons, and has a length of about 275 m., but is navigable for 40 m. only.

Klang, tn. in Selangor, Brit. Malaya, situated near the K. R. It is the chief seaport of Selangor. At the mouth of the riv. is K. Is.

Klapka, György (1820-92), Hungarian general, b. at Temesvár, joined the Hungarian revolution of 1848, when he won sev. victories and greatly distinguished himself in the siege of Komorn, where he continued the defence long after the main Hungarian army had capitulated. He wrote *Memoirs of the War of Independence*

in Hungary (1850); *The War of the East* (1855); and other military works.

Klaproth, Heinrich Julius (1783-1833), Ger. orientalist; b. in Berlin; son of Martin Heinrich K., chemist. Studied Chinese at the age of fourteen. Adjunct in oriental languages, St. Petersburg, 1804. In China with Count Golovkin, 1805-7. Travelled, Caucasus region, 1807-8. In Berlin, 1811-14. From 1815, in Paris where he was appointed prof. of oriental languages by the king of Prussia. He pub. three works on the Caucasus and Georgia, (1812-14); *Asia Polyglotta*, (1823); other works on Asia and Egypt; also *Aperçu général des trois royaumes* (1833, about Japan).

Klaproth, Martin Heinrich (1743-1817), Ger. chemist, b. at Wernigerode. He was appointed lecturer in chem. to the Royal Artillery in 1787, and prof. at the univ. of Berlin in 1810. He was the leading Ger. chemist of his time, and discovered uranium, titanium, zirconium, and melleic acid; he also made experiments on copal and completed the discovery of tellurium. His writings include *Beiträge zur chemischen Kenntnis der Mineralkörper* (1793-1815); and *Chemische Abhandlungen gemischten Inhalts* (1815).

Klattovy (Ger. Klattau), tn. of Czechoslovakia, 28 m. S.S.W. of Pilsen. It has an old church and tn.-hall, and manufs. cloth, machinery, dairy, and matches. Pop. 11,100.

Klausenburger, see CLUJ.

Klausthal, see GLADSTAD-ZELLERFELD.

Kleber, Jean Baptiste (1753-1800), Fr. general; b. at Strasbourg. Studied at military academy, Munich; served in Austrian Army. From 1783 practised in France as architect. In National Guard, after defending Mainz, brigadier-general. Fought successfully with Fr. and foreign foes of the Republic. Won the battle of Altenkirch against the Austrians in 1796. Accompanied Bonaparte to Egypt; was left in command when Bonaparte returned. In 1800 re-took Cairo. Assassinated by a Turk during treaty negotiations, June 11.

Klee, Paul (1879-1910), Swiss painter, b. near Bern. He studied at Munich, to which tn. he returned after travels to Italy, Paris, and Berlin. On the advent of Hitler to power K. abandoned his teaching at Düsseldorf and returned to Switzerland. His work was first exhibited in London in 1938, but it was not until the full-scale exhibition of 1946 that K.'s merits were fully recognised in England. In his early years he was associated with the Expressionist, Kandinsky, and influenced by Cézanne, Franz Marc, and Blake, amongst others. His own theories were expressed in his *Über die Moderne Kunst* (Eng. trans. 1948); the artist, he says, 'does nothing other than gather and pass on what comes to him from the depths'; he uses the metaphor of the process by which soil is converted to the foliage of a tree to describe the transformation of life itself by the artist, through his medium, into a finished work. In 1912 K. joined in the foundation of the 'Blanc Reiter' school, and

from 1920 his work became more purely imaginative and surrealist. He combined a feeling for craftsmanship with an original sense of colour to reproduce the varied processes of his own subconscious, often in highly abstract designs. There is a great sensitivity about most of his work, and in many examples a gay and witty charm. K. wrote *Über die moderne Kunst* (1945; trans. by H. Read, 1948). See J. T. Soby, *The Prints of Paul Klee*, 1948; also studies by W. Hausenstein, 1921, and W. Grohmann, 1929; and a short essay by H. Pictou, 1945.

Kleist, Bernd Heinrich Wilhelm von (1777-1811), Ger. writer, b. at Frankfurt-on-Oder. He served in the Rhine campaign of 1796, but left the service in 1799, and devoted himself to the study of law and philosophy, finally taking up literature. His first drama, *Die Familie Schroffenstein*, a gloomy tragedy, appeared in 1803; this was followed by *Penhesilea* (1808), taken from a Gk. source, and a romantic play, *Das Käthchen von Heilbrunn, oder Die Feuerprobe*, the same year. Other dramas of his are *Die Hermannsschlacht* (1809), and *Prinz Friedrich von Homburg* (pub. 1821), generally considered his best work. He also wrote comedies, e.g. *Der zerbrochene Krug* (1811), and patriotic lyrics, and his *Michael Kohlhaas* (1808) is one of the best Ger. stories of its time. See E. Cassirer, *Heinrich von Kleist und die Kantische Philosophie*, 1919; S. Zweig, *Der Kampf mit dem Dämon*, 1928; and T. Kaiser, *Vergleich der verschiedenen Fassungen von Kleists Dramen*, 1914; also studies by H. Meyer-Henfey, 1911; F. Gundolf, 1922; and C. Braig, 1925.

Kleist, Paul Ludwig von (b. 1881), Ger. soldier, b. at Braunfels, Prussia. Served as a cavalry officer and regimental commander in the First World War. After the war he was a cavalry instructor, but on Hitler's advent to power, he was raised to the command of an Army Corps. Took part in the invasion of Poland in 1939. He was in command against France in 1940, in Yugoslavia in 1941 and took Belgrade, and on the S. Russian front in Aug., 1941. Early in the invasion of Russia his armoured forces led the assault on Kiev, and the advance through the Ukraine. His tank forces captured Dnepropetrovsk in Aug. 1941 but his victory was nullified by the Russian destruction of the great dam at that place. On 22nd Nov. (1941) he took Rostov-on-Don, but was outmanoeuvred by Marshal Timoshenko, who re-took the town a week later. This set-back, though limited in its immediate scope, marked the turning-point of the campaign. In the Ger. offensive of mid 1942 he commanded the first Ger. armoured force and advanced to the foothills of the Caucasus up to Moxdok but was then turned back by the Russian winter offensive of 1942-43. Reached the rank of colonel-general. See also EASTERN FRONT OF RUSSO-GERMAN CAMPAIGN IN SECOND WORLD WAR.

Klepts, bands of Gks. who in the fifteenth century waged guerrilla warfare against the Turks, ultimately becoming brigands. They played a considerable

part in the war of Independence at the beginning of the nineteenth century.

Kleptomania, symptom of insanity which takes the form of an irresistible desire to steal. It cannot be considered a specific disease, but is associated with many forms of mental aberration. Some cases demonstrate a desire to steal any sort of property that may be available; in other cases the patients seem to be obsessed by the desire for particular objects which they will acquire in a legitimate manner if that is possible, although they apparently feel no inhibitory force if stealing suggests itself to them as an alternative.

Klerksdorp, tn. in the Potchefstroom dist., Transvaal, S. Africa, 117 m. S.W. of Johannesburg. There is a goldfield in the vicinity and diamonds have been found. Pop. 16,000.

Kleve, see CLWV.

Klingenthal, tn. of Saxony, Germany, 26 m. S. of Zwickau. It has manufs. of musical instruments. Pop. 7,000.

Klinger, Friedrich Maximilian von (1752-1831), Ger. playwright, and poet, b. like Goethe, at Frankfurt-on-Main, became an ardent disciple of the latter. His drama, *Sturm und Drang* (1776), gave its name to that movement in Ger. literature, characterised by exuberance of action and want of form. Another drama of his, the tragedy, *Die Zwillinge* (1775), is also celebrated. From 1780 to 1830 he was employed in Russia, chiefly as head of the corps of pages. See M. Riegen, *Klinger in der Sturm und Drangperiode*, 1880; M. Lanz, *Klinger und Shakespeare*, 1904; H. Steinberg, *Studien zu Schicksal und Ethos bei Friedrich Maximilian Klinger*, 1941.

Klinger, Max (1857-1920), Ger. painter, etcher, and sculptor; b. at Leipzig; son of a merchant. He commenced his studies at Karlsruhe in 1874. In 1878 his paintings and his etchings—including a series called 'Fantasies upon the Finding of a Glove'—attracted hostile criticism and suspicions of insanity; but they were later bought for the National Gallery, Berlin. He treated biblical and mythological subjects in a somewhat gruesome manner. Supplied mural paintings for Leipzig Museum and Univ. Statue (polychromatic) of Beethoven, 1902. See study by F. Avenarius, 1917.

Klinz, or Klinzy, tn. in the Bryansk Region of the R.S.F.S.R., 100 m. N.N.E. of Chernikov. It manufs. cloth and woollen goods, and is also engaged in tanning. Pop. 40,000.

Klip-das, see under HYRAS.

Klip River, dist. in the N.W. of Natal, S. Africa, situated to the N. of the R. Tugela. It is watered by the K. R., which rises in the N. of Natal, and the cap. is Ladysmith.

Klodzko, see GLATZ.

Klondike, small riv. situated in Yukon Ter., Canada, about 120 m. long. The region of the goldfield includes part of the basin of the riv., and also of the Indian R., the existence of the mineral in this dist. being first discovered in 1896.

Klopstock, Friedrich Gottlieb (1724-1803), Ger. poet, b. at Quedlinburg.

Studied theology at Jena and Leipzig. Early in life he felt called upon to write a great religious epic, and finally chose the Messiah as his theme. The first three cantos appeared in 1748. They were received with great enthusiasm, and K. was hailed as the deliverer of Ger. literature from the formalism of Gottsched and mere imitation of Fr. works. *Der Messias* was not completed until 1773. Written in hexameters, it is a very uneven poem, some parts of it being imbued with deep feeling and fervour, while others are flat and trivial. In 1750 K. spent some time with Bodmer in Zurich, but his conduct was too frivolous for his serious-minded host. In 1751 he received a pension from the king of Denmark, and remained at Copenhagen till 1771. K. also wrote dramas, principally upon old Ger. hist., *Hermann's Tod* (1757), *Die Hermannsschlacht* (1769), and *Hermann und die Fürsten* (1781), but their worth is small. His odes (1771) however, are considerably better, and many of them are imperishable. See also F. Muncker's ed. of his works (1887, a selection) and his *Klopstock* (1900). See life by Muncker, 1889; also H. Wohlert, *Das Weltbild in Klopstocks Messias*, 1915, and J. Weger, *Bewegung als formendes Gesetz in Klopstocks Oden*, 1939.

Kloster-Heilsbronn, see HEILSBRONN.

Klosternansfeld, tn. of Saxony, Germany, 5 m. N.W. by N. of Eisleben. Pop. 5000.

Klosterneuburg, tn. in Lower Austria, situated on the r.h. of the Danube, 5 m. N.W. of Vienna of which it is a suburb. Here is situated the oldest Augustinian monastery in Austria, and the wines produced are famous. Pop. 15,000.

Klosterzeven, Convention of, concluded in Sept., 1757, by the duke of Cumberland, with the Fr. commander, duc de Richelieu, by which the former, who had been defeated at Hastenbeck and was without means of retreat, agreed to disband his army and leave Hanover to the Fr. The Eng. Gov. refused to ratify the convention, and recalled Cumberland in disgrace, although he appears to have been carrying out George II.'s instructions.

Klotz, Louis Lucien (1808-1930), Fr. politician and advocate, b. in Paris. Soon forsook the Bar for politics, was finance minister. He was in no fewer than seven govts. Was chosen to be one of the Fr. delegates at the inter-allied peace conference in Paris, 1919. He wrote *De la guerre à la paix*, 1924. In Dec. 1928 he was arrested in Paris. He resigned from the Senate; and, after being medically examined and pronounced sane, he was convicted, July 12, 1929, of fraud and the uttering of worthless cheques and sentenced to two years' imprisonment. Released 'on conditions,' Sept. 15 same year.

Klotz, Otto (1852-1923), Canadian astronomer and seismologist, b. at Preston, Ontario. Educated at Toronto and Michigan Univs. In early days he explored the N.W. ters. of Canada, and later carried out exploratory survey of Hudson Bay. Took up astronomy in 1885.

Canadian delegate at seismological meetings in various European caps. Chairman of the National Committee of Canada, International Astronomical Union, 1920. President, Amer. Seismological Society, 1920-21. He wrote numerous papers on terrestrial magnetism and seismology.

Klusk, Heinrich Rudolf Alexander von (1846-1934), Ger. field-marshal; b. at Münster; son of Karl K., gov. architect. Entered 55th Infantry 1865; fought in wars of 1866 and 1870—twice wounded near Metz. General of Infantry 1906. K. commanded First Army in W. to the extreme left of the Allies' line in N. France, Aug. 1914. All the advancing line received orders to halt when K.'s force was already across the Marne; and he was obliged to execute a movement that brought him within 30 m. of Paris on Sept. 6. Then followed the first battle of the Marne, ending Sept. 9 with K.'s retreat to the Aisne. Wounded in trenches 1915, he was retired Oct. 1916 with field-marshal's rank. His account of his last campaign was pub. in Eng. in 1920 as *The March on Paris*.

Kluge, Gunther von (1882-1944), Ger. soldier. Served in the First World War. In command of the force which occupied the Polish corridor (q.v.) in 1939. Served on the W. front in 1940; in N.W. Russia in 1941; commander on the central Russian front in 1942, and made commander-in-chief in W. Europe in July 1944. D. in Aug. 1944. The retirement of von Rundstedt, and his replacement by von K. three weeks after the beginning of the Anglo-Amer. offensive of June 1944, while officially attributed to ill health, was an expression of discontent at the Ger. failure to achieve the paramount aim of repelling the allied landing. But it brought no essential change in tactics, and no effective steps to restore a situation which was steadily deteriorating as far as defence was concerned. Von K. was himself removed after the disaster of the Falaise Gap, and was reported to have d. shortly afterwards, his place being taken by von Model, recalled from the Russian front to handle the Ger. retreat to the Rhine. See further under WESTERN FRONT in SECOND WORLD WAR.

Kivuchevsky, V. O. (1841-1911), Russian historian, b. at Voskressenskaya, held the chair of hist. in Moscow Univ., and was the most famous of all Russian historians. In 1882 he pub. his inspiring book on the Russian Duma or Privy Council of the emperors. His monographs on both the pre-Muscovite and Muscovite periods are Russian classics. His *Course of History* (1904), written in good literary style, is a convincing attempt to reconstruct the past untroubled by philosophical irrelevancies or party prejudices. His *Aid to Lectures on Russian History* appeared in 1899.

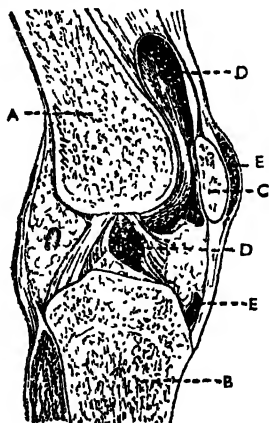
Knacker (Icelandic *knakkr*, saddle), dealer who traffics in old or disabled horses. By Brit. law, a K must slaughter the horse delivered to him within two days. He must not work any horse sent to him, nor sell it alive. Moreover, he must keep a full record of his transactions.

He must not slaughter any animal within sight of another waiting to be slaughtered, nor must he cut off any of its hair before it is killed. To-day, however, there are persistent reports of cruelty in the traffic of exporting horses for human consumption. It is averred by some that of every ten horses slaughtered six are sold on the black market for human consumption at prices threefold or more of the legal maximum. Many local authorities have urged the gov. to set up a commission of inquiry.

Knapweed, see under CENTAUREA.

Knatchbull-Hugessen, Sir Hughe Montgomery (b. 1876), Brit. diplomat. Educated at Eton and Balliol College, Oxford. Entered the Foreign Office 1908. Attached to the Brit. delegation at the Paris peace conference of 1919. Counsellor, Brit. Embassy, Brussels, 1926-30. Brit. minister to the Baltic States 1930-34; at Teheran 1934-36; ambas., China 1936-38; Turkey 1939-44; Brussels, and minister to Luxembourg 1944-47. Particularly distinguished for his work in Istanbul during the Second World War, where he thwarted the designs of von Papen, the Ger. ambas. He wrote an autobiography, *Diplomat in Peace and War* (1949).

Knaresborough, tn. in the W. Riding of Yorkshire, England, 17 m. N.N.W. of York. There are remains of an old castle, and a grammar school. There is also a 'dropping well' and St. Robert's Cave. The tn. manufs. linens and rugs. Pop. 7700.



SECTION OF KNEE

A, femur; B, tibia; C, patella;
D, D, synovial sac; E, E, bursa.

Knee, joint between the lower and upper leg, involving articular surfaces on the femur, tibia, and patella, or knee-cap. The articular surface of the femur comprises the greater part of the surface of the condyles, which are separated by a deep notch, while faint transverse grooves show

the limit of their articulation with the patella. The patella is a heart-shaped bone; the wide upper part is concave and smooth, and is divided into two articular portions by a rounded ridge; the lower part is rough and non-articular. The joint is nearly surrounded by a series of ligaments of complex structure and movement. The ligaments are lined by the synovial membrane, which is the largest in the body. The movement of the K. is in general that of a hinge-joint, though a certain amount of rotatory movement is possible when the joint is moderately flexed. The mechanism of the joint is particularly adapted to maintaining the erect attitude, which involves extension of the joint. Notwithstanding the important and strenuous nature of its function, the K.-joint is comparatively free from injury, owing to the massiveness of the articulating members. The patella is liable to fracture by direct or indirect violence, and is still more liable to dislocation, which, however, is often reduced without much trouble. Persons of tuberculous constitution are liable to serious disease following upon any injury to the joint, and such injuries should be followed by careful treatment for a protracted period. A strain is often followed by inflammation of the synovial membrane, and this is apt to recur if the joint is subjected to violent treatment before perfect recovery. Hence the need for protracted rest in cases of 'water on the knee.'

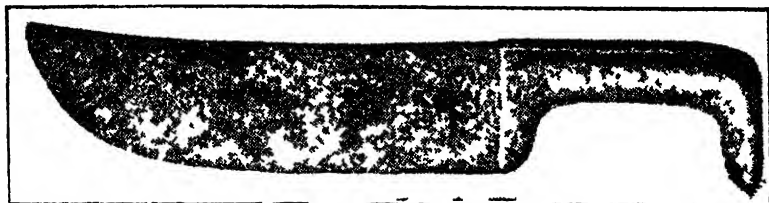
Kneeling seems to have been the primitive Christian attitude for non-liturgical prayer, and also for penitents at the Liturgy, during the greater part of which the faithful stood. At other services K. seems to have been the custom in prayer except on Sundays and during Eastertide, i.e. until the octave of Pentecost. K. was then more like prostration, and the terms are frequently used synonymously. 'The practice of standing at the Liturgy is now only retained in the E. Church. In the Rom. and Anglican churches, the people almost invariably kneel for prayer. While the celebrant receives the sacrament standing, the people do so kneeling.'

Kneller, Sir Godfrey (1646-1723), Ger. born portrait painter, who provided the link between Stuart portraiture, which had been dominated by foreigners, e.g. Sir Anthony Van Dyke, Sir Peter Lely; and the national school that was founded early in the eighteenth century. B. at Lübeck, he avoided becoming a soldier, and studied art in Holland, instead. Here he took lessons under Ferdinand Bol (q.v.), and came under the influence of Rembrandt. He travelled to Italy, staying in Rome and Naples, and setting up a studio in Venice. In 1674 he came to England intending to return to Venice, but as he quickly became extremely popular and successful, he decided to settle in England, and soon set up a vast practice. He replaced Lely as chief court painter to Charles II. in 1680. He married the daughter of the archdeacon of Lincoln, Susannah Crane, and in 1723 he d. He was probably buried in his garden at Twickenham, but his monument is in Westminster Abbey.

K has been named the most prolific portrait painter of any country. His works number nearly 6000, among which there are almost 800 unfinished. He worked at an extreme speed. Walpole said of him: 'Where he offered one picture to fame he sacrificed twenty to lucre.' He was also more wanting in conscience than any other painter of his rank, and was inclined to be bored by his sitters—which is reflected in some of his works. He employed several assistants who completed and made copies of many of his works. Probably his best portrait is that of Wm. Wycherley, the dramatist, and among some of his better known are those of Thomas Burnet, William III. the duke of Portland, Charles II., James II. and several other people of note. K had considerable influence upon his successors. This is shown in two ways: by his paintings and by his teaching. His studio was the immediate forerunner of the first real drawing school in London at which attended

portance in the development of races. As distinct from the dagger, which is always two edged, the prime importance of the K is its use as a tool, its use as a weapon can easily be seen to be secondary, as only its ready accessibility favours its adoption in preference to more specialised weapons. Bronze Ks have been found amongst relics of the Bronze Age and the use of iron was common long before hardened steel became the established material for the making of Ks.

From a remote period in English history the manufacture of Ks has been associated with the town of Sheffield in Yorkshire. The earliest form of stool K, a blade of steel fastened rigidly to a wooden or horn handle, was followed by the jack K, which closed into a groove in the handle, in the sixteenth century. In the seventeenth century the pocket K, with spring back, was introduced and has developed with increase in the number of blades and improvement in workmanship ever since. Ks are made



IRON KNIFE FROM HALLSTADT

most of the notable English artists of the eighteenth century. K's influence was uncertain as his paintings varied from year to year and his technical development was rather haphazard. But the fine handling of his few notable portraits did not fail to impress his successors. See Lord Killmain, *Sir Godfrey Kneller and his Times 1646-1733* 1918.

Kneller Hall, once the property of Sir Godfrey Kneller, now in possession of the State, is situated in Middlesex half way between Hounslow and Twickenham. It is a very fine example of Queen Anne architecture and now serves as head quarters for the Royal Military School of Music.

Knesset, constituent and legislative assembly of the modern state of Israel (1949).

Knickerbocker Families, term applied to the people of New York who are descended from Dutch settlers. The name also from Washington in Irving's *History of New York* (1809) which purported to have been written by one Dietrich Knickerbocker.

Knife (A S. *cnif*, a cutting implement). Of the weapons and tools found as relics of the Stone Age, the term knife is applied to those sharpened flints which were designed to be held in the hand or mounted upon a short handle to give slightly more leverage for cutting. The manifold uses to which a K. can be put give it great im-

portance in the development of races. As distinct from the dagger, which is always two edged, the prime importance of the K is its use as a tool, its use as a weapon can easily be seen to be secondary, as only its ready accessibility favours its adoption in preference to more specialised weapons. Bronze Ks have been found amongst relics of the Bronze Age and the use of iron was common long before hardened steel became the established material for the making of Ks. From a remote period in English history the manufacture of Ks has been associated with the town of Sheffield in Yorkshire. The earliest form of stool K, a blade of steel fastened rigidly to a wooden or horn handle, was followed by the jack K, which closed into a groove in the handle, in the sixteenth century. In the seventeenth century the pocket K, with spring back, was introduced and has developed with increase in the number of blades and improvement in workmanship ever since. Ks are made

usually of shear steel the various processes being forging, hardening, tempering, grinding, polishing, and finishing. Some times the less essential parts of the K, such as the tang by which it is fastened to the handle, are made of malleable iron which is welded to the cutting portion. Among various forms of Ks may be mentioned pocket, table, carving, hunting, surgical, butchers', shoemakers', and running Ks. Many tribes of the Nile and Congo districts are very expert in throwing Ks as a method of attacking animals. Knight, Charles (1791-1873), English author and publisher son of a Windsor bookseller. In 1812 in conjunction with his father he edited the *Windsor and Eton Express* and also printed the *Almanac*. He commenced a busy career as publisher of good literature at low prices with the production of *The Plain Englishmen*, which he edited from 1820 to 1825 in conjunction with K. H. Lockhart of Greenwich Hospital. Settling in London in 1822 he founded *Knight's Quarterly Magazine*, to which Macaulay and other rising literary men contributed. In 1827 he became associated with the Society for the Diffusion of Useful Knowledge, and issued for the society the *Penny Magazine* (1832-15), the *Penny Cyclopaedia* (1833-44), and the *English Cyclopaedia* (1853-61). He edited a *Pictorial Shakespeare* (1838-41), and wrote a popular biography of Shakespeare (1843), His *Popular History of*

England was completed in 1862. In 1860 he was appointed publisher of the *London Gazette*. His active career as a publisher came to an end in 1864, but his work as an author continued to the close of his life. His other pubs. include *The Library of Entertaining Knowledge*; *The Pictorial Bible* (1836); *The Pictorial History of England* (1837-44), etc. See life by Alice A. Clowes, 1892.

Knight, Eric Mowbray (1897-1943), Amer. novelist, b. at Menston, Yorkshire, England. Migrated to the U.S.A. in 1912, and became naturalised thirty years later. Served in the ranks of the Canadian forces in the First World War. Served in the Amer. Army in the Second World War, having the rank of major. Killed in an aeroplane crash while on an official mission (1943). He will be remembered for his novels, among which the best were *Song on Four Bells* (1936); *The Flying Yorkshireman* (1937); *The Happy Land* (1940); and *This Above All* (1941).

Knight, Joseph Philip (1812-87), Eng. composer of songs, b. at Bradford-on-Avon. He produced his first songs at the age of twenty, and after this composed the music for a number of Haynes Bayly's songs, including *She wore a wreath of roses*. Of later songs the best was *Rocked in the cradle of the deep* (1839). He took holy orders after 1841, and was appointed to the charge of St. Agnes, Scilly Isles.

Knight, Dame Laura, Eng. painter; daughter of Charles Johnson. She was educated at Brimcliffe, Nottingham, and studied at Nottingham School of Art. She won the gold, silver, and bronze medals, S. Kensington, and the Princess of Wales scholarship. Married Harold K., 1903, the year she first exhibited at Royal Academy. Represented in art galleries all over Eng.-speaking world. She and her husband have lived at Staithes, Yorkshire, in Holland, and at Newlyn, Cornwall. D.B.E., 1929, A.R.A. 1927, and R.A., 1936. First woman to become a full member of the Academy since Angelica Kaufmann and Mary Moser. Pub. *Oil Paint and Grease Paint*, 1936.

Knight, Richard Payne (1750-1824), Eng. connoisseur, b. in Herefordshire. The journal which he kept when he visited Sicily with the Ger. painter, Philip Hackert, was trans. and pub. by Goethe in his biography of Hackert. His magnificent collection of coins, bronzes, pictures, etc., was bequeathed to the Brit. Museum. He was regarded as an authority on anc. art, and was vice-president of the Society of Antiquaries. His works include *An Analytical Essay on the Greek Alphabet* (1791); and *An Inquiry into the Symbolical Language of Ancient Art and Mythology* (1818).

Knight, Thomas Andrew (1759-1838), Eng. horticulturist, b. in Herefordshire. He was awarded the first Knightian medal, founded in his honour in 1838, and was president of the Horticult. Society, 1811-1838. He wrote *A Treatise on the Culture of the Apple and Pear* (1797); *Pomona Herefordensis* (1811), and over 100 papers, some of which were pub. in 1841.

Knighthood, word which in its origin was intimately bound up with the class of military tenants of the feudal system. It is purely a matter of antiquarian interest whether the term knight (O.E. *cniht*, a boy) ever superseded or was ever synonymous with the Lat. *miles* or the *gesith* or comes of Tacitus, or whether it applied solely to the military tenants of a baron or earl exclusive of those of the king himself. For it is at least certain that under the feudal system as introduced by the Conqueror and developed under Henry II. the military strength of the nation was measured by the number and efficiency of the knights whom the king was able to summon to the field, and a knight then meant no more than a person whose holding of land was on condition of performing military service for the sovereign (knight's fee or tenure in chivalry). Chivalry was practically a synonym for K., but was not used with the same utilitarian connotation, and is rather to be regarded as a semi-religious, semi-epic growth of the feudal system, which reached its flower of perfection during the crusades. The Church early threw its aegis of solemnity over the formal investiture of a youthful knight into the profession of arms and inculcated in him those virtues which we habitually associate with the word chivalry. The institution of the celebrated military orders of the Knights Templars and the Hospitallers, or Knights of St. John, was the direct result of the crusades. The members of these orders were pre-eminently and primarily soldiers of the Cross, whatever charges of misgotten wealth, worldly living, idleness, and heresy may with justification be hurled against their representatives of a later age. These knights have ever in the popular imagination existed as a far more heroic, nay, almost legendary class of men, than the mere tenants in chivalry of the feudal system. Nor is this remarkable, because their primary object being to repulse the infidel, their orders were essentially cosmopolitan and attracted the pick of knight-errantry, and the honour of K. was conferred upon their members by various European monarchs quite irrespective of any property qualifications, for the most part purely on account of military distinction. But side by side with these orders existed the knights of the feudal system, and indeed this territorial K., as it may be termed, and chivalry in its more appropriate sense declined together. In England even in the Middle Ages, K. was not by any means an unquestionably desirable honour, if, as contemporary chronicles show, the king was frequently obliged to resort to distraint to compel those who held the knight's fees (land of about £20 ann. value) to take the order of K., or prove that they were qualified to take the field as knights. This practice soon developed into a lever for inducing tenants to compound with the king by way of fine (*scutage*), and ultimately into a process for extorting money from those who would have been exempt at common law, which regulated the amount of a knight's fee by

the sufficiency of the land to support a knight, and not by its fluctuating normal value in a debased currency. This process of extortion by compulsory K. was revived in a truly anachronistic manner by Charles I as a means of raising money without resorting to Parliament, with the result that an Act was soon passed abolishing the prerogative of compulsory K.

At the present day the anct. military origin of K. is preserved in the continued existence of the accolade or symbolical ceremony of dubbing a man a knight by

Empire. Similar continental orders, equally avid of the hallowed claims of an exalted, if generally legendary, antiquity, are the order of the Holy Ghost founded by Henry III of France, and the order of the Golden Fleece of Spain. Probably the most distinguished of the Brit orders is that of the Garter. The pretensions of that of the Bath to an equal dignity of genesis are now generally agreed to be invalid, in spite of Selden and Camden. For details of the different orders of K., see ORDERS OF KNIGHTHOOD.



INSTALLATION OF KNIGHTS OF THE GARTER BY QUEEN ANNE AT KENSINGTON PALACE, AUG. 11, 1713

Painting by Peter Angelis.

touching his head with the tip of the royal sword. K. gives precedence over esquires and other untitled persons. 'Sir' is prefixed to the baptismal name of knights and baronets, and their wives have the legal designation of 'Dame,' which in modern parlance is converted into 'Lady.' The designation 'Dame' is now, however, applied to Dames Grand Cross of the Brit. Empire (see DAMES). Besides those who are simply knights there are others who are members of particular orders or classes which exist in most of the European states, and owe their foundation generally to some sovereign prince. Of this class of honorary associations are the Brit. orders of the Garter, the Thistle, St. Patrick, the Bath, the Star of India, St. Michael and St. George, and the Indian

Knightsbridge, name of a dist. of W. London, which extends into the city of Westminster, and also into the par. of St. George's, Hanover Square.

Knight-Service, system of land tenure in feudal days, which was introduced after the Norman Conquest. The king divided the land amongst his tenants-in-chief, who rendered him K. in return, i.e. they had to provide so many knights for service in the field according to the amount of land (knights' fees) held, and were also liable for certain fees. Tenure by K. was abolished in 1860.

Knights Hospitallers, see HOSPITALIERS, KNIGHTS.

Knights of Columbus, an organisation founded in the U.S.A. as a fraternal benefit association for Catholic men. It

was started in 1882 by Rev. M. J. McGivney and nine parishioners of St. Mary's Catholic church in New Haven, Connecticut, and has grown to such an extent that it has now more than 640,000 members in over 2500 subordinate councils. It operates in every state of the Amer. Union, in every prov. in Canada, and also in Mexico, Puerto Rico, Alaska, Panama, Cuba, and the Philippines. It has a charter which permits it to engage in public welfare, educational, relief, and boys' work. When the U.S.A. entered the First World War, the U.S.A. Gov. officially recognised it as a welfare organisation to work among the soldiers. In this capacity it not only laboured among the soldiers in the vast camps in the U.S.A., but also among the 2,000,000 Amer. troops ultimately brought to France. It collected and spent sev. million dollars in this work, all administrative expenses being borne by the K. of C. itself. In 1923 it began active work among boys, and sponsors at Notre Dame Univ. what is claimed to be the only post-graduate course in boys' work in the world. In 1930 it gave sums of money for relief work in the drought-ridden middle W. states, and also in Santo Domingo. It has assets of over \$30,000,000, and the insurance it has in force is close to \$280,000,000.

Knights of Labour, see TRADE UNIONS.

Knights of Rhodes and Malta, see HOSPITALIERS, KNIGHTS.

Knights of St. John of Jerusalem, see HOSPITALIERS, KNIGHTS.

Knights of the Golden Circle, Amer. anti-federal, pro-slavery secret society and political organisation which flourished 1855-64 and sympathised with the Secessionists.

Knights of the Round Table, see ROUND TABLE, THE.

Knights of the Sepulchre, see SEPULCHRE.

Knights Templars, see TEMPLARS.

Knistineaux, see CREES.

Knitting. The origins of K. are completely unknown. The records of the rocks and tombs throw no light on how man mastered the craft. We know that man was a weaver thousands of years before the birth of Christ and from studying the life of primitive man that he learnt the technique of producing woven fabrics by his observations of grasses plaiting in the wind and the interlacing of the boughs of trees in the primeval forests. There is one flint that suggests to us how man learnt the knitter's craft. 'Sprang,' a form of needle weaving, has much in common with the technique of both K. and crocheting, while the fragments of Peruvian needle K. dated the first century of the Christian era show the evolution from a 'sprang' to a K. technique.

The first knitters were the nomadic tribes who lived in the Arabian desert, and it is probable that the women spun the wool in their own homes and the men knitted while tending their flocks of sheep. K. was also practised in aet. times, as it is to-day, by fishermen and here again we can see clearly the evolution from netting on a single stick to K. on two needles.

The earliest known fragment of Arabic K., the property of Dr. Fritz Ikle, dated seventh to ninth century, was found at Fostat in Egypt, the city standing on the site where Cairo stands to-day. The fabric is extremely fine and worked at a tension of thirty-six stitches to the inch. There is a coloured geometric pattern in deep maroon on a gold ground, the colour not in use being stranded across the back of the work. The fabric itself is knitted throughout in cross stocking stitch. The interest in this specimen is that it shows a long development behind it, suggesting that K. must have been practised any time up to 1000 B.C. The Coptic Christians, the founders of the primitive church, learnt to knit from the Arabs and in their early missionary journeys took the craft with them to Spain and also to the Brit. Isles. There are sev. fine examples of Coptic K. in museums in various parts of the world. From Spain K. moved across Europe centring in Italy and France, both countries claiming to be the originators of knitted silk hose. In the Basque country the knitted and felted beret from which the Scottish knitted bonnet originated has been the traditional piece of headwear for well over a thousand years. In France hand-K. flourished and by the thirteenth century had become one of the staple industries of the country, the knitters' guild founded in Paris being the most highly organised guild of master knitters the world has ever known. We know that in the reign of Edward IV. the Fr. knitters were exporting hosiery to Britain. In Italy coloured brocade K. worked in gold and silver thread and bright-coloured silks added its mark to this phase of the craft's development. To-day brocade Florentine knitted waistcoats are prized by collectors, a perfect specimen of this craft being among the knitted garments at the Victoria and Albert Museum. The sixteenth century was the golden age of K. and one still looks with wonder at the knitted carpets designed and worked by the master craftsmen during this period. In England K. appears to have estab. itself during the reign of Queen Elizabeth as a pastime among the ladies of the court. It is recorded that a Mrs. Montague presented the queen with two pairs of silk stockings knitted by her own hand.

Colour K., that is, producing patterned fabrics in sev. shades of wool and silk, would have appeared to have centred largely in Spain and Italy and it has been suggested that sailors, who were saved from the wrecked Armada carried this phase of the craft to the W. of Ireland and to the Shetlands. While this theory is disputed there is ample evidence to support its truth, for Donegal K. to-day still preserves the simple geometric designs the Spaniards mastered from Arabic sources. Many of the original Fair Isle patterns are a direct link with the Catholic tradition of Spain where they originated. In S. Austria heavily embroidered K. has been in vogue for sev. centuries, the basic fabric being knitted in simple lace designs in heavy

wool, the embroidery being worked in gay colours on top of the knitted fabric. In N. Germany plaited and cable fabrics have always been dominant, while in Belgium and France knitted laces, some of them almost as fine as cobwebs, have added a new charm to this fascinating craft. K. reached Scandinavia during the seventeenth century, Dutch craftsmen being invited by the king of Denmark to establish themselves and their craft in that country. It is probable that in the N. of Scandinavia K. flourished at a much earlier date, as there is a long record of 'sprang' fabrics being produced there in the Bronze Age.

As London became the commercial centre of England K. moved further and further N. The first K. school was founded in York in the sixteenth century, while the frame K. hosiery trade established itself in Leicester and Nottingham about the same period. During the seventeenth and eighteenth centuries the Yorkshire dale became the centre for hand K. in England, various records proving that the K. of hosiery was a thriving industry during this period. The Victorian age, following the Industrial Revolution, slowly undermined the hand K. industry, and while fishermen of the Shetlands and the E. coast fishing ports still carried on the craft, it became mainly a drawing-room hobby practised by the genteel daughters of the rising middle class who were beginning to dominate the domestic life of the Brit. Isles. It is a notable fact that wars have always produced a revival of hand K. The Balachava helmet was the forerunner of knitted comforts for the troops that once again commanded our attention during the last two European wars. The spinning of hand-K. wools by reputable firms, the production of K. books and K. leaflets giving simple instructions how to produce knitted garments at home have contributed largely to the development of K. to-day. This again is a direct development from the K. patterns that can be found in many of the gentlomen's magazines of the Victorian era.

The knitter's craft itself is very simple, requiring only a set of K. needles, a ball of wool, cotton, silk or linen. A single loop is made on the end of the fibre that is being used and from this loop the stitches are cast on to the needles, the basic action of the craft consisting of transferring the loops from one needle to another; 'weaving' the new set of loops transferred on to the second needle from the first set of loops by passing the point of the second needle through the loop, wrapping the fibre over the point of the needle, and then passing the loop over the fibre wrapped round the needle. By working across the back of the loops a purl stitch is produced. K., and purling being the foundation stitches out of which the most simple and elaborate patterns are created. To-day we seem to be moving into another golden age of K. and many firms of K.-wool spinners throughout the world are doing much to preserve the ancient traditions of this simple and lovely craft. See *Mary*

Thomas's Dictionary of Knitting Patterns, 1943; *Mary Thomas's Knitting Book*, 1948; J. Norbury, *The Knitter's Craft*, 1950; Patons and Baldwins Ltd. (pub.), *Woolcraft* (1949 ed.), a standard textbook on the subject; and *Stitchcraft* (a monthly magazine devoted to knitting and kindred crafts).

Knitting, Mechanical, see **HOSIERY**.

Knoblock (Knoblauch), Edward (1874-1945), dramatist, b. in New York city, descendant of a Ger. family, educated in Berlin and Harvard, where he studied drama. Came as a young man to London where he gained experience of the theatre by writing, adapting, and translating plays. In 1906 his adaptation, *The Shulamite*, was produced at the Savoy, and the next year he became reader of plays at the Kingsway Theatre. After visiting Tunis and Kairouan to study local colour, he wrote the play *Kismet* which was produced at the Garrick Theatre in 1911 with great success by Oscar Asche. In 1912 appeared *Milestones*, the comedy of three generations of one family, in which he collaborated with Arnold Bennett, and which became one of the most famous plays of the period. After collaborating with Tom Pellatt ('Wilfrid Coleby'), the schoolmaster, in the play *The Headmaster*, he produced *My Lady's Dress* (1914), which is considered by some to be his best play, though others think that his *Mari-Oddie* (1915), a study of the true innocence of women, surpassed it. During the First World War he became naturalised and changed the spelling of his name, devoting himself to the service of the Fr. in Britain. In 1931 he dramatised J. B. Priestley's *The Good Companions*. His book of reminiscences, *Round the Room* (1939), is an appealing revelation of character.

Knock, par. and vill. of co. Mayo, Ire, 5 m. N.N.E. of Clacmorris. The church has been visited by pilgrims since Aug. 21, 1879, when it was announced that the Blessed Virgin had appeared there in bodily form. Pop. 2500.

'Knocking', see **PINKING**.

Knock-knee, condition in which the knees are close together and the feet widely separated. In infants it is usually the result of rickets and may be avoided by taking measures to keep the child from standing on its feet. General attention to health and nutrition is also necessary to counteract the predisposing cause. In older persons it is caused by undue pressure on the joint, through having to perform work beyond their strength. The weight of the body is transmitted through the outer condyle of the femur; if heavy loads are carried by a young person the ligaments of the knee fail to maintain horizontally in the joint. The outer condyle gradually diminishes in size owing to the increased pressure, and the inner condyle grows to a corresponding extent, causing the condition to become permanent. When observed in time, massage and attention to the circumstances under which the undue pressure is sustained will tend to alleviate the condition.

Knockmealdown, mt. range of Ire, in

the S. of Tipperary and the N.W. of Waterford. Its length is 12 m., with an average width of 4½ m., and the summits reach about 2700 ft.

Knokke, tn. in Belgium, situated in W. Flanders, 10 m. N.N.E. of Bruges. Its extensions along the North Sea, called Albert-Strand (Albert-Plage) and Het Zoute (Le Zoute), range among the most modern seaside resorts of the Belgian coast. K. has a famous casino-kursaal and an aerodrome. Pop. 11,000.

Knole, one of the largest private houses in England, situated in K. Park, 1 m. from Sevenoaks, Kent. It was begun by Thomas Beaufort, archbishop of Canterbury, in 1456, but greatly extended, c. 1603, by Thomas Sackville, first earl of Dorset, to whom it was granted by Queen Elizabeth. The state rooms contain a large number of historic pictures, rare furniture (e.g. the K. settee) rugs, and tapestries dating from the early seventeenth to the late eighteenth century. It was given in 1946 by the fourth Lord Sackville to the National Trust, although the family retain a lease of part of the house. See L. Sackville-West, *Knole House*, 1908 and V. Sackville-West, *Knole and the Sackvilles*, 1934.

Knolles, Richard (c. 1545-1610), Eng. historian, educated at Oxford, and master of the grammar school at Sandwich, Kent, after 1571. His *Generall Historie of the Turkes*... was pub. by A. Islip (1603), and later ed. with additions by Sir P. Rycaut (1700). K. trans. Bodin's *De Republica* in 1606, dedicating it to his patron, Sir P. Manwood. See 3rd ed. of Wood's *Athenæ Oxonienses*, ed. by P. Bliss, 1813-1820; S. Johnson in the *Rambler*, No. 122; and *Athenæum*, Aug. 6, 1881.

Knollis, or **Knollys**, Sir Francis (c. 1514-1596), Eng. statesman, descendant of Sir T. Knollys (d. 1435). He entered Henry VIII.'s service before 1550, became M.P. for Horsham (1542), fought for Edward VI. in Scotland, and was knighted in 1547. His strong Puritan views caused him to leave England in Mary's reign, but he returned under Elizabeth, and was sent by her on a mission to Ireland (1566), and later to take charge of Mary Queen of Scots. See S. Haynes, *Burleigh Papers*, 1740 and Sir R. Naunton, *Queen Elizabeth's Favourites*, 1824.

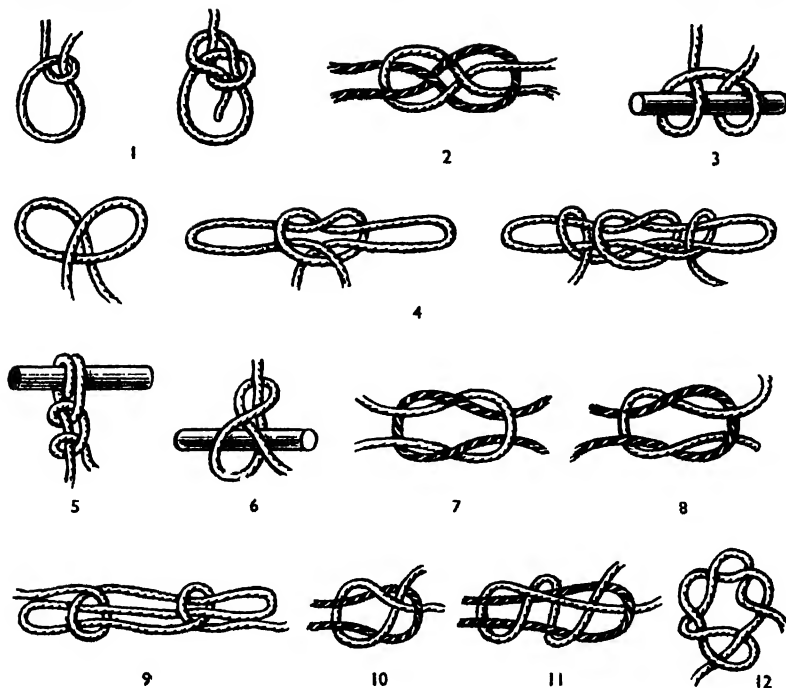
Knossos, or **Knossus**, Crete, see CNOSSUS.

Knot (O.E. *cnotta* from a Teutonic stem *knutt*, cf. *kult*), in cordage, an interwoven loop of rope, cord, string, or any flexible material, used to fasten a rope to an object or to another rope. The various methods of fastening are known by the technical names of Ks., bends, hitches, seizings, and splices, all of which, save the last, would be termed varieties of Ks. by the layman. 'Bends' and 'hitches' are methods of fastening ropes together or round spars, etc.; 'seizings' (Fr. *sauoir*) are ways of fastening two spars to one another by a rope, or two ropes by a third; 'splices' (cf. split) are made by weaving the ends of two ropes together (see below). The principle on which all are constructed is that the strain they bear shall serve to draw them tighter. Among the various kinds

of Ks. used on board ship for different purposes may be mentioned: figure of eight, bowline, running bowline, half-hitch, clove hitch, Blackwall hitch, double Blackwall hitch, cat's paw, marlinspike hitch, fisherman's bend, timber hitch, Carrick's bend, sheet bend, single and double wall Ks., Matthew Walker, inside clinch, midshipman's hitch, Turk's head, Sp. windlass, shroud K., Flemish eye, racking seizing, diamond K., etc.

Splices are methods of fastening two ropes together in such a way that there is no great increase in size or decrease in efficiency and strength at the point of junction; there are three main kinds, the short splice, the eye splice, and the long splice. The short splice is formed by unlaying the strands of the rope for a short distance, 'marrying' them, and passing them over one strand and under the next, twice each way, with the aid of a marlin-spike. Before being turned in a second time the strands are halved, the upper half only of each strand being turned in; all the projecting strands are then cut off neatly. An eye splice is made by unlaying the strands of the rope and placing them upon the same rope, spread at such a distance as to give the right size of loop for the eye required. A splice is then made in a similar manner, and when projecting ends have been trimmed, the part disturbed is bound tightly round with a hawl line. In a long splice, not only are the ends unlaid for three times as long as in the short splice, but one of the strands of each rope is unlaid for a still further distance, thus making the splice firmer. In a scientific sense a K. is a physical line, i.e. a flexible inextensible line that cannot be cut, that cannot be deformed into a circle. J. B. Listing (1802-82) was undoubtedly the pioneer of the scientific study of Ks.; in his *Vorstudien zur Topologie* (1848) he gives in a few pages what is evidently only a précis of his observations on the subject. Prof. F. G. Tait treated of Ks. according to their 'knotiness,' 'be-knottnedness,' and 'knotfulness,' in his paper to the Royal Society of Edinburgh (see *Transactions Royal Society, Edinburgh*, xxviii. 145, 1876-77). He applies the name of 'amphichiral' (αμφι and χερσ) to Ks. which can be deformed into their own perversion, that is, their image in a plane mirror. It has been shown that any K. can be represented by three plane curves, none of which has double points and of which no two intersect, and C. F. Klein has proved (*Mathematische Annalen*, ix. 478) that Ks. could not exist in space of four dimensions. In addition to the works cited above, see T. Bowling, *Book of Knots*, 1866; J. T. Burgess, *Knots, Ties, and Splices*, 1884; and O. W. Ashley, *The Ashley Book of Knots*, 1947.

Knot, unit by which the speed of a ship is reckoned; e.g. 20 Ks. equal 20 nautical m.p.h. The term is derived from the Ks. in the log-line (see LOG). The nautical mile is supposed to be equal to one minute of lat., but since the earth is not a perfect sphere this varies a little, and no mean has been agreed upon. In Brit. usage the nautical mile is 6080 ft., whereas in that



TWELVE KNOTS

1, bowline (in stages); 2, Carrick's bend; 3, clove-hitch; 4, fireman's chain knot (in stages); 5, fisherman's bend; 6, half-hitch; 7, reef knot; 8, granny knot; 9, sheepshank (shortening knot); 10, sheet bend; 11, double sheet bend; 12, towler hitch.

of the U.S.A. it is 6082 ft. 8 in. Ten cables make one K. in charting, etc., although the usual length of a cable is 600 ft.

Knottingley, par. and urb. dist. of W. Riding, Yorkshire, England, on the R. Aire, 3 m. N.E. of Pontefract. The industries are glass bottle works, rope-walks, and limestone quarries. Pop. 9000.

Knout, whip used in Russia for the punishment of criminals, said to have been introduced under Ivan III.

Knowledge, or Epistemology, that part of philosophy which treats of the possibility, nature, and limits of human K. Before Plato it is possible to distinguish three main theories of K., set forth in the *Theaetetus*.

It appears that the sophists, following Heraclitus, taught that K. is no more than sense perception. Another view was that it was true belief, i.e. judgment founded on the impressions derived through sense. Finally the Cynic Antisthenes maintained that only compounds are knowable. Against the first of these theories Socrates affirmed that the truth of things is attained by general

notions reached through deduction and definition. Thus we consider a number of instances, e.g. twenty books, omit all that is peculiar to each, define what is common to each, and thereby arrive at a general notion of the essence, book. Plato (427-347 B.C.) accepted the Socratic view, rejected the other two current opinions, and constructed his theory of ideas which dominated the whole of W. thought for 2000 years, and still influences a large part of mankind. According to Plato it is necessary to distinguish between K. and belief, and to admit two classes of objects, the real and the phenomenal. The former he called ideas. They are permanent unchanging entities, existing in themselves and not as mere products of thoughts. These ideas in their totality make up intelligible reality. They are what we know, and all particular or phenomenal things, which are the objects of sense perception, somehow participate in them. They are the essence of particulars. These ideas are apprehended by the intellect (*νοῦς*), a pure and unmixed

act of the soul. Belief or opinion is the fruit of pure thought and perception combined. With Aristotle (384-322 B.C.) the ideas of Plato are not existing entities, but products of thought, universal concepts. The essences of particular things are in them according to reason as well as according to time. Aristotle taught that reality is an unbroken chain of being ranging from the purely indeterminate (first matter, *πρώτη ύλη*) to complete actuality (God). Every individual thing in nature is compounded of this matter and form (*μορφή*) which gives to it qualities, its intelligible essence. He also discusses the various forms of cognitive activity, the process by which K. is acquired, and distinguishes sense perception, memory, experience, active and passive intellect. The scholastic philosophers, notably St. Thomas Aquinas (1225-74) and Duns Scotus (1274-1308), accepted and developed the teaching of Aristotle. William of Ockham was the precursor of conceptualism according to which the only existent realities are individual things, universals being mere products of the mind. This led to nominalism which stated that universals are mere names since generalisation and indeed thought itself are impossible without words.

There are three prin. schools of modern epistemology: rationalist, empirical, and critical. Representative of the first school are Spinoza (1632-77) and Leibniz (1646-1716). Spinoza denies the existence of reality outside God of whose eternal and infinite essence he says man has an adequate K. Man is part of the world of phenomena, but can escape from its finiteness through 'salvation'. This theory is illogical inasmuch as it purports to reconcile reality and appearance while recognising the existence of the world of appearance. Leibniz does not regard the mind as a mere recipient of ideas. He takes into account the mind's reaction in K., and thus opposes the view of Locke (1632-1704), the first of the empirical school. Locke holds that all our K. comes from sense experience and from that alone. Berkeley (1685-1753) develops this view, asserting the non-existence of unthinking matter, a paradox which has had a considerable influence on epistemology and on philosophy in general. He postulates the falsity of all abstract ideas and argues that all possible ideas must be particular concrete facts of consciousness possessing characteristics or images which we can discover and describe. But he also allows that we have K. of other reality than that of our ideas, for we 'may be said to have some knowledge or notion of our own minds, of spirits and active beings, whereof, in a strict sense, we have no ideas.' This admission led him almost to go back on sensations, emphasising the intellectual apparatus of experience which enables us to rise to truth and to God. Hume (1711-76) further supplemented the empiricism of his predecessors in his analysis of K. which reduces every positive object of K. either to an impression or an idea. The former term comprises sensations and emotions, the latter

the faint images of these livelier perceptions in thinking and reasoning. Kant (1724-1804) stands at the head of the critical school. He taught that the intelligible world is explained by the unity of the self or of consciousness. This self is not merely an individual but is universal, and this consciousness has a rational validity and significance. We create the world, which is the product of our own understanding. Fichte goes further, regarding reality as wholly constructed by the ego. Since the death of Hegel (1831) modern epistemology has been represented by two schools. Spiritualists, theists, and idealists maintain that matter and spirit can be reconciled by rational insight. This is denied by positivists, agnostics, and Kantians. Modern epistemological research, however, is chiefly concerned with the nature of the act of cognition. The neo-scholastics accept in principle the doctrine of Aristotle as expounded by St. Thomas Aquinas. Others, though differing at many points, appear to accept four common propositions: (1) Perception is a complex act involving more than the apprehension of sense qualities; (2) there is a distinction between the act of thinking and the thought; (3) thoughts or sense qualities are not identical with the physical object nor, necessarily, with any of that object's qualities; (4) what is known through sense perception is based on the apprehension of sense qualities and the perception of the relations between those sense qualities. See GREEK: D. Peipers, *Die Erkenntnistheorie Platos*, 1874; W. D. Ross, *Aristotle*, 1923; A. E. Taylor, *Plato*, 1926. SCHOLASTIC: A. Stockl, *Geschichte der Philosophie des Mittelalters* (4 vols.), 1861-67; M. de Wulf, *Histoire de la philosophie médiévale*, 1905. MODERN: B. Russell, *A Critical Exposition of the Philosophy of Leibniz*, 1900; H. H. Joachim, *Study of the Ethics of Spinoza*, 1901; H. A. Pritchard, *Kant's Theory of Knowledge*, 1901; J. Gibson, *Locke's Theory of Knowledge*, 1907; C. D. Broad, *Perception, Physics, and Reality*, 1914, and *Mind in Nature*, 1925; A. N. Whitehead, *An Enquiry concerning the Principles of Natural Knowledge*, 1919; R. Metz, *George Berkeley*, 1925.

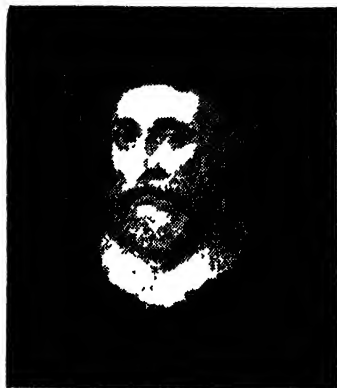
Knowles, James Sheridan (1784 1862), Eng. dramatist, the son of James K., the lexicographer, after failing in sev. callings, turned as a last resource to the writing of plays, in which occupation he achieved considerable success. His tragedy of *Caius Gracchus* was produced at Belfast in 1815, and won much praise. Five years later his *Virginia*, suggested to him by Keats, was performed at Drury Lane. For Macready at Covent Garden he wrote *William Tell* (1825); and three years later was produced *The Beggar's Daughter of Bethnal Green*. Among his other plays were *Alfred the Great* (1831); *The Hunchback* (1832); and *The Chase* (1837). In later life he became a Baptist preacher. There is a biography by his son, R. B. K. (1872). See also L. H. Meeks, *Sheridan Knowles and the Theatre of his Time*, 1934.

Knowles, Sir James Thomas (1831-1908), Eng. editor, began life as an architect. He was editor of the *Contemporary Review* from 1870 to 1877, and then founded the *Nineteenth Century*, which, with Gladstone, Tennyson, Huxley, Fitz-james Stephen, Manning, and other celebrities contributing, was from the first a great success. He was made K.C.V.O. in 1903.

Knowlesley, par. and tn. of S.W. Lancashire, England, 5 m. W. of St. Helens. The mansion of K. Hall has been, since the reign of Richard II., the seat of the Stanley family; it contains sev. art treasures, including Rembrandt's 'Belshazzar's Feast' and specimens of Rubens and Correggio. Pop. 3000.

Knox, John (c. 1513-72). Scottish reformer, *b.* in Giffordgate, Haddington. From statements of K. himself it would appear that his father was a feudal dependant of the earl of Bothwell. His mother's name was Sinclair. It was formerly believed that K. was *b.* in 1505, and that he was the John K. who entered Glasgow Univ. in 1522, but later opinions favour 1513 or 1514 as the date of his birth. Little is known of his early years, but it is known that he became a priest and during 1540-43 he acted as notary in Haddington, and in 1544 he became tutor to Francis and John, sons of Hugh Douglas of Longniddry and Alexander Cockburn of Ormiston. At the houses of Douglas and Cockburn and Crichton of Brunston he met George Wishart, whose zeal in the Lutheran cause made a deep impression upon him. In 1546 Wishart was burned at St. Andrews for heresy, and K., having been in association with him, was compelled to take refuge in the castle of St. Andrews in the following year in order to escape arrest. The castle was then held by the murderers of Cardinal Beaton. At this time he was formally called to the Protestant ministry, and preached in the castle and par. church of St. Andrews, making a profound impression. A few months later the castle was surrendered to the Fr. and, in violation of the terms of surrender, K. and others were condemned to the Fr. galleys. K. was a prisoner in France for eighteen months, and then, in Feb. 1549, he was released through the intervention of Edward VI. He went over to England, and preached at Berwick-on-Tweed, Newcastle, and in Buckinghamshire. In 1551 he was made one of the six royal chaplains, and in this capacity took part in the revision of the second Prayer Book of Edward VI. On the accession of Mary Tudor, K. crossed over to the Continent. From Dieppe he proceeded to Geneva, where he spent most of the next eighteen months, interrupted only by short visits to Zürich and Frankfurt-on-Main. At the latter place he ministered to the Eng. refugees, but left owing to objections to his teaching. At Geneva he met Calvin, but was not so much impressed by Bullinger, whom he met at Zürich. He returned to Scotland in Sept. 1555, and it was about this time that he married his first wife, Marjory Bowes. He found the nobles of Scotland

strongly inclined towards Protestantism, owing to the co-operation of the court with the policy of France. He proceeded to champion the cause of Protestantism with so much vigour and effect that his opponents compelled him to quit the country, but not before he had laid the foundations of ultimate success. He was summoned by the bishops to appear at the Blackfriars Kirk in Edinburgh on May 5, 1556, but he came with so strong a following that the prosecution was abandoned. He returned to Geneva in July 1556, and during his three years' residence there he sent over to Great Britain a series of propagandist pamphlets, including his well-known *First Blast of the Trumpet against the Monstrous Regiment of Women* (1558).



JOHN KNOX

He returned to Scotland in 1559, and never left it again for any length of time. He found the Protestant nobles now in open revolt against the queen regent, and he advanced their cause greatly by his powerful preaching at Perth, St. Andrews, and Edinburgh. He joined the qualities of a statesman with those of a divine, and he took no secondary part in the events that followed. It was mainly through his efforts that the aid of England was obtained in forcing the queen-regent to send the Fr. soldiers out of the country. The death of the queen regent occurred about this time, opportunely for her opponents, and Protestantism was estab. as the religion of the country. K.'s Confession of Faith being formally adopted on Aug. 17, 1560. This was the state of things when Mary Stuart, with her entirely Rom. Catholic leanings, came to Scotland in 1561. K., who had become minister of Edinburgh in the previous year, felt that he had a special duty towards her, and a sermon which he preached at St. Giles, Edinburgh, in 1561 led to the first of his famous interviews with the queen, which he has so vividly described. Many of the nobles seemed disinclined to go the full length of K.'s Calvinistic ideals, but the

misfortunes of the queen aided his aims considerably. K., nevertheless, remained in the background for a time, and after the murder of Rizzio he deemed it prudent to withdraw to Kyle in Ayrshire. After the murder of Darnley K. came to the front again, and denounced the queen and Bothwell, acting once more with Moray, from whom he had been estranged for a time. These events and the flight of the queen to England resulted in the final overthrow of Rom. Catholicism in Scotland. K.'s work was now almost done. His imprisonment in France in earlier years had greatly impaired his health, and that, combined with his many years of strenuous agitation, began to tell upon him, but he was still a force to be reckoned with. James Melville draws a striking picture of the reformer in his later days at St. Andrews, where he was so weak that he had to lean against the pulpit on his first entry, but before the sermon was ended he was 'like to ding that pulpit in blads (fragments), and fly out of it.' His last public appearance was on Nov. 9, 1572, at the induction of his successor, Lawson, to St. Giles, Edinburgh. This effort greatly exhausted him, and he gradually sank, and d. on the twenty-fourth of the same month. Two days later he was buried in the churchyard then attached to St. Giles, but now forming part of the courtyard of Parliament House. The spot where his remains lie is indicated by a plate bearing the initials I. K. K.'s first wife d. in 1560, and in 1561 he married Margaret Stewart, then a girl in her teens. He was survived by his second wife and by all his children.

To modern minds K. presents the character of a rugged, stern, fierce reformer, in fact, almost a fanatic; yet he had a great share in fashioning the destiny of his native country, and has left an abiding impression upon its religious life. In denunciation he was supreme—in fact, the word 'Protestant' finds one of its best examples in him. His eloquence and the virility of his utterances made him a valuable asset to the cause he championed, and his qualities of statesmanship made him more than a pulpit force. He was in no sense a pioneer in theology, but carried into practice the stern creed of Calvin. The regent, the earl of Morton, said at his graveside: 'There lies he who never feared the face of man, who hath been often threatened with dag and dagger, but yet hath ended his days in peace and honour; for he had God's providence watching over him in a special manner when his life was sought.'

See K.'s *Historie of the Reformation of Religion within the Realme of Scotland* (1584), which is his most abiding monument as a writer. The standard ed. of his works is that ed. by David Laing for the Wodrow Society, and pub. in 6 vols. in 1846-64. See also T. McCrie, *Life of Knox*, 1813; T. Carlyle, *Heroes and Hero Worship*, 1841; P. Lorimer, *John Knox and the Church of England*, 1874; P. Hume Brown, *John Knox*, 1895; A. Lang, *John Knox and the Reformation*, 1905; J. Glasse, *John Knox*, 1905; K. Hewat, *Makers of*

the Scottish Church, 1920; and E. Muir, *John Knox: Portrait of a Calvinist*, 1929. Knox, John (1720-90), Scottish philanthropist, for many years a bookseller in the Strand, London. He then retired to Scotland, devoting his energies to improving Scottish fisheries and manuf., and making sixteen tours through Scotland (1764-75). His works include *View of the British Empire*... (pub. anonymously) (1784); *Observations on the Northern Fisheries*... (1786); and *A Tour through the Highlands*... (1787).

Knox, Ronald Arbuthnot (b. 1888), Brit. writer, son of the Rev. K. A. K., Sanskrit scholar, and from 1903 to 1921 bishop of Manchester. Educated at Eton and Balliol College, Oxford. Became fellow and lecturer at Trinity College, Oxford, and, having, in 1917, entered the Rom. Catholic Church, became Rom. Catholic chaplain at Oxford Univ. (1926-39). Domestic prelate to the pope, 1936. He wrote a number of clever detective stories, besides more serious works. His stories include *The Viaduct Murder* (1925); *The Footsteps at the Lock* (1928); and *The Body in the Sile* (1933). Other works: *A Spiritual Enaid* (1918); *The Belief of Catholics* (1927); *Essays in Satire* (1928); *Barchester Pilgrimage* (1935); *Let Dons Delight* (1939); *God and the Atom* (1945). The lively exercises in humorous scholarship, by which he is most widely known, such as the *Studies in Sherlock Holmes*, were papers designed to enliven the stodgy fare of pious societies, and indeed his literary work, like that of the farm labourer of a monk, is part of his priestly calling, or may be so regarded, for it will always be found to be controversial in character. Thus *Caliban in Grub Street* (1930) was an examination of the slump-provoked interest in religion which was suddenly and absurdly exhibited by the press. In *Broadcast Minds* (1932) he engaged more weighty opponents in H. G. Wells, Lord Bertrand Russell, H. L. Mencken, Julian Huxley, and Gerald Heard as men who personified the jaunty materialistic opinions of the time. His *God and the Atom* is in many ways the postscript and epitome of all his controversial work. In it he addresses equally the Christian tempted to *Schadenfreude* and the heathen tempted to despair. To the practical warrior the atom bomb presented no moral or spiritual problem, but K. shows that the popular uneasiness over its use in Japan was based on the deepest philosophical grounds. (Evelyn Waugh.)

In 1946 he made a fresh trans. of the N.T. from the Vulgate. The trans. was made for Rom. Catholics for study alongside the standard Rheims version of 1582. In 1949 appeared his trans. of *The Old Testament*, vol. 1: *Genesis-Esther*.

His brother, Edmund George Valpy K. (b. 1881), educated at Rugby and Corpus Christi College, Oxford, joined the staff of *Punch*, and as 'Evee' became known for his humorous contributions. Editor of *Punch* 1933-49. His writings to *Punch* have appeared in book form as *Fancy Now* (1924); *It Occurs to Me* (1926);

Here's Misery (1928); *This Other Eden* (1929), etc.

Knox, William (1789-1825), Scottish poet. He became a farmer in Dumfriesshire from 1812 to 1817, and settled in Edinburgh in 1820, following a literary career. His works include *Visit to Dublin*; *Marianne, or the Widow's Daughter* (prose); *The Lonely Hearth* (1818); *The Songs of Israel* (1824); *The Harp of Zion* (1825). His *Collected Poems* appeared in 1847. See Sir W. Scott, *Journal*, i., 1891; J. G. Lockhart, *Life of Scott*, vi., 1837; Rogers, *Scottish Minstrelsy*, iii.

Knox, William Franklin (1874-1944), Amer. statesman and soldier, b. at Boston, and educated at Alma College, Michigan. Fought with the Rough Riders in the Cuban war, 1898. Manager of *Grand Rapids Herald* (Michigan), 1898-1900; publisher of various prov. newspapers, 1901-31; general manager of the Hearst group of newspapers, 1931; finally acquired a controlling interest in the *Chicago Daily News*, in which he strongly opposed the New Deal. He commanded an artillery regiment in France in the First World War, and was Rep. J.-eun nominee for the Amer. presidency in 1935. From the outbreak of the Second World War he consistently supported the Allies and opposed the isolationists. In June 1910 President Roosevelt appointed him as secretary of the navy.

Knoxville, city and the co. seat of Knox co., Tennessee, U.S.A., on the Tennessee R., 165 m. E. of Nashville. It has a beautiful situation in a fertile and healthy region, and is the centre of the marble trade of Tennessee. It also manufs. cotton and woollen goods, furniture, flour, iron goods, and other articles. Here is situated the univ. of Tennessee. Pop. 111,600.

Knutstorf, mkt. tn., co. of Cheshire, England. It lies 15 m. S.W. of Manchester. This tn., supposed to have derived its name from Knute's ford, is very old and picturesque, and is described in Mrs. Gaskell's *Cranford*. It manufs. cotton, leather goods, and worsted. Pop. 6700.

Knysna, name of a div. and tn. in Capo Province, S. Africa. The div. comprises a strip of land on the S. coast of the prov., and the tn., which is at the mouth of K. R., is 139 m. W. of Port Elizabeth. Timber is exported at its excellent harbour, and there are sawmills. Pop. (white) 3060; (others) 4300.

Koala (*Phascolarctus cinereus*), small marsupial related to the wombats and phalangiers of Australia, and known as the Australian bear. Greyish-white fur, tufted ears, and no tail. Is a vegetarian feeder, and is so delicate that, in spite of State preservation, it is becoming extinct.

Kobdo, tn. and trading centre of Outer Mongolia, China, situated on a plateau about 4000 ft. above sea level. Pop. 6000.

Kobe, tn. of Japan on the is. of Honshu on the bay of Osaka. In 1868 it was opened to foreign trade, and the city of Hyogo was opened at the same time, the former becoming the foreign residential quarter. Since 1892 the two tns. have

formed one. It possesses an excellent harbour. K. did not share the phenomenal growth of the other leading cities of Japan during the inter-war decades; but its pop., 967,000 (1911) shows what would, by other standards, be a striking increase—50 per cent in fifteen years. It has an imperial shipbuilding yard, and its industries include match-making, cotton goods, and camphor distilling. It was heavily damaged during the many Amer. air raids on Honshu in 1945, especially on June 4, 1945, when large areas of K. were devastated by 500 Super-Fortresses.

Kobeh, or **Kobi**, tn. of the Anglo-Egyptian Sudan, 35 m. W.N.W. of El-Fasher. It was at one time the cap. of Darfur.

Kobelyaki, tn. in the Poltava Region of the Ukrainian S.S.R., on the Vorshla, 100 m. N.N.W. of Dniepropetrovsk. Pop. 15,000.

Koblenz, or **Coblenz**, tn. of Germany, formerly cap. of the Rhine prov., situated at the junction of the Rhs. Rhine and Moselle, 57 m. S.E. of Cologne. Two of the chief features are the royal palace, finished in the latter half of the eighteenth century, and a statue of the Emperor William I. A large amount of wine is produced in the tn., and there are also piano, paper, and machine factories. In Dec. 1918 it was occupied by Amer. troops. Owing to the nature of the terrain the Allies in 1945 decided against crossing the Rhine between K. and Bonn, but by the Amer. Third Army's swift arrival on the Rhine and the Moselle, and its advance S.E., the Gers. were taken off balance, and their forces were brushed aside as the Allies swept up the Rhine. The offensive began on March 15, and K. was occupied in a few days, the riv. bank being cleared by March 19 from K. as far as the Bingen bend. Pop. 81,800. (See illustration, p. 180.)

Kobold, see GOBLIN.

Kobresia, genus of Cyperaceae, contains less than half a dozen species, flourishing in Europe and Asia. *K. carvina* occurs on Brit. moors.

Koburg, see COBURG.

Koch, Johannes, see COCCHEUS.

Koch, Ludwig (b. 1881), Ger. naturalist, educated at Frankfurt-on-Main, Paris, and Milan. Singer of *Lieder* and in oratorio, being a pupil of Jean de Reszke, 1903-14. Director of the culture dept., of Ger. Gramophone, Odeon, and Parlophone Company. First to record directly the songs of wild birds and the cries of other wild creatures, and is the originator of sound-books. Since 1936 he has lived in Britain as a naturalist and author of sound-books. Pub. *Songs of Wild Birds* (with E. M. Nicholson, 1936); *More Songs of Wild Birds* (with E. M. Nicholson, 1937); *Hunting by Ear* (with M. Berry and D. W. E. Broek, 1937); and *Animal Language* (with J. Huxley, 1938).

Koch, Robert (1815-1910), Ger. physician, founder of modern bacteriology, b. at Clausthal, and educated at Göttingen. He isolated the bacillus of anthrax (1876), later proposing a means of preventive inoculation against the disease. In 1882

he discovered the bacillus of tuberculosis, and led the cholera expedition to Egypt and India (1883), finding the cause of cholera in the comma bacillus. K. was prof. at Berlin Univ. (1885), and director of the Institute for Infectious Diseases (1891). He prepared tuberculin (1890-1891), a lymph of 'paratubercle' by which he hoped to effect a cure for phthisis, but it has failed to prove a remedy though valuable as a diagnostic agent. K. held that there was a distinction between tuberculosis in man and in cattle, and denied the possibility of transmission of the disease from one to the other. The Eng. Royal Commission Reports on Tuberculosis (1904, 1907, 1909-1911), strongly

bakterien (1884); *Investigation of Pathogenic Organisms* (1886); *Heilmittel gegen die Tuberkulose* (1891); *Über neue Tuberkulinpräparate* (1897); *Die Bekämpfung des Typhus* (1902). With Dr. K. Flügge he issued *Zeitschrift für Hygiene und Infektionskrankheiten* (a periodical issued from 1886 onwards). His collected works, ed. by J. Schwalbe, G. Gaffky, and E. Pfaff, were pub. in 1912. See study by J. Lobel, 1935.

Koch, Pall, or Rajbansi, race of India of aboriginal descent, which inhabit N.E. Bengal and Assam. They are probably of Mongolian stock. The wealthier members of the race pretend to be descended from Silva, and claim the title of Rajbansi



D. McLe

KOBLENZ AND THE RHINE FROM THE KAISER WILHELM I. MONUMENT

support the opposite view, i.e. that transmission is possible. In two visits to S. Africa (1896 and 1903) K. studied the 'underpest' (cattle plague), investigated malaria and its causes in Ger. E. Africa (1897), and the W. African 'sleeping-sickness' (1905-6). K.'s *postulates* state that a bacterium is proved to be the cause of a disease when (1) the bacterium can be isolated from individuals having the disease; (2) the bacterium can be cultured *in vitro*; (3) the symptoms are produced by injection of the culture. K., and his pupil Petri, were responsible for the introduction of solid culture media, containing gelatine or agar, whereby bacteria could be isolated and grown in pure culture; even Pasteur, who was no Germanophile, referred to this discovery as 'un grand progres'. His works include *Untersuchungen über die Ätiologie der Wundinfektionskrankheiten* (1878); *Über die Mitzbrandimpfung* . . . (1882); *Beitrag zur Ätiologie der Tuberkulose* (1882); *Über die Cholera-*

oder Soma von King. The name K. is preserved in the independent state of Kuch (or K. or Cooch) Behar. They number about 2,000,000.

Kochi, tn. of Japan, situated on the S.E. coast of Shikoku, 135 m. S.W. of Kobe. It is noted especially for coral. Pop. 73,000.

Kock, Charles Paul de (1794-1871), Fr. novelist, more popular abroad than in France itself. His novels deal mostly with Parisian middle-class and low life in a witty and realistic manner. Among the chief are *Georgette ou la mère du Tabellion* (1820); *Andre le Savoyard* (1825); *Le Barbier de Paris* (1826); *Mon Votain Raymond* (1837); and *Gustave* (1842). See his *Mémoires*, (1873); and life by T. Trimm, 1873.

Kodak, popular photographic hand camera using roll film, characterised by ease of manipulation and portability. Trade name, belonging to K. Ltd., makers of photographic apparatus and material,

of Kingsway, London, with branches elsewhere in London and provs. The controlling interest is held by the Eastman K. Company, Jersey City, U.S.A.

Kodály, Zoltán (b. 1882), Hungarian composer, folk-song collector, and musical critic; b. at Kecskemét. He studied composition under Koessler and, in 1905, began to devote his attention to Hungarian folk music, in which he was associated with Bartók. Later, he made a collection of some 4000 peasant tunes, some noted orally from peasants, others recorded by phonograph; and nearly all of them from dists. the most unaffected by urb. culture. His suite, *Hary János* (1923), from a comic opera, is well known, and he has also written chamber, piano, and vocal music, and some choral works, e.g. *Psalmus Hungaricus* (1923). In 1945 he became director of the Budapest High School of Music.

Kodas Eli, see ISMID.

Kodiak, see KADIAC.

Kodok, see PASHODA.

Kodungalur, or **Cranganore**, tn. in Cochin state, Madras, India, 17 m. N. of Cochin. It was supposed to be the place where St. Thomas first laboured, but there is no evidence in support of this statement. It originally belonged to the Portuguese, but was captured afterwards by the Dutch. Rice and coconuts grow in the neighbourhood. Pop. 33,200.

Koechlin, Charles (b. 1867). Fr. composer, b. in Paris, of Alsatian descent. He studied at the Conservatoire, Paris, under Massenet and Fauré. He is a composer of melodies, choral works, chamber works, symphonic poems, and ballads.

Koekelberg, Belgian tn. situated in Brabant, forming a manufacturing suburb of Brussels, 2 m. to the N.W. It is engaged in the manuf. of foodstuffs, furniture, chemicals, and has dye-works and breweries. Pop. 15,100.

Koeleria, genus of Gramineæ, contains fifteen species, all of which flourish in temperate lands. The sole representatives in Britain are *K. cristata* and *K. ralesiaca*.

Koffyfontein, tn. in the Orange Free State, S. Africa, situated 30 m. N.W. of Ficksburg. Rich diamond mines are worked in the neighbourhood. Some of the finest diamonds in the world have been found here, but the First World War and ensuing depression killed both this tn. and Jagersfontein. Pop. (white) 1200, (others) 1600.

Kohat, tn. in the K. dist. of the N.W. Frontier prov., Pakistan, 37 m. S. of Peshawar by a military road which was opened in 1901 along the K. Pass. It is the military base for the S. Afridi frontier. Salt is mined in the dist. Pop. 28,500.

Kohen, Johannes, see COCCIVUS.

Kohinoor, or **Koh-i-nûr**, one of the most famous diamonds in the world. When presented to Queen Victoria in 1850 it weighed 186½ carats, but by recutting it was reduced to 106½ carats. It is considered by some to be a portion of the Great Mogul diamond which was in the possession of Aurangzobe in 1665. The K. belonged in 1739 to Nadir Shah,

was in the possession of the rajah of Lahore in 1813, and was presented to Queen Victoria by the E. India Company. It is now in the crown of the queen of England.

Kohistan (land of mts.), name given to mountainous regions in Persia, Afghanistan, India, and Turkestan. In Persia it means the mts. in Khorasan, and in India those of the N.W.

Kohl, or **Kuhl**, finely divided black powder, generally antimony sulphide or lead sulphide, used in the E. and in theatrical circles for darkening the eyelids, eyelashes, and eyebrows. The word is derived from the Assyrian *qublu*, meaning eye-paint, and was applied by Paracelsus (1493-1541) to spirit of wine, whence our *alecohol*.

Koikoi, Maori weapon, see under MAORI.

Koizumi, Yakumo, see HIRAN, LAF-CADRO.

Kokand, or **Kokan**, tn. in the Forghana region of the Uzbek S.S.R., S. of the Syr-Darya, 350 m. E.N.E. of Bokhara. It has cotton-spinning factories and silk mills. Raw cotton, cloth, and fruit are sent from K. and other 'oasis tns.' to European Russia. Pop. 81,600.

Kokomo, city and the cap. of Howard co., Indiana, U.S.A., 60 m. N. of Indianapolis. It has glass and steel works, lumber mills and potteries, and manuf. iron and rubber goods. Pop. 33,800.

Koko-nor, or **Kuku-nor** (blue lake), lake in Chinghai prov., China. The lake lies between the Kuen-lun and the Nan-shan Mts. It is 60 m. in length, 40 m. in width, has an area of 2500 sq. m., and is at an altitude of 9976 ft. It has no outlet, its waters are salt and bitter, and frozen for three months of the year. The region of K., which lies between Tibet, China, and the Gobi desert, is sometimes taken to include Tsaidam and the plateau of Odontala.

Kokoschka, Oskar, Czechoslovak painter, b. 1886 at Pöchlarn, Austria (now Czechoslovakia). He studied at the Vienna School of Industrial Art, where he showed his first exhibition. He left there in 1907, and went to Berlin, thereafter travelling in Italy and Switzerland. During the First World War he was wounded, and in 1920 he became prof. at the Dresden Academy, where he remained until 1924. He spent the next few years travelling in Europe, N. Africa, and Asia Minor. His works were banned under the Nazi regime in Germany. K. made his home in England, and became a naturalised Brit. subject. His work is represented in a number of public galleries in Europe and the U.S.A. His painting of Polperro, Cornwall, was presented to the Tate Gallery by President Beneš. Major exhibitions have been held in London (1928), Paris (1931), Switzerland (1947), Venice (1918), and New York (1919). K. belongs to the expressionist school of painters, intent on conveying his own personal vision and understanding, employing vivid contrasts, arbitrary colour, and distortion if need be. His landscapes are notable in particular for the manipulation of space as well as for their power

and colouring. K. has also written plays, including *Der brennende Dornbusch* (1911); *Hiob* (1917); and *Orpheus und Eurydike* (1916), which was set to music by Krenke in 1923. On his painting see monographs by Edith Hoffman, 1948, and J. S. Plaut, 1949.

Kokra-wood and **Coco-wood** are terms applied to the wood of the *Inga vera*, a leguminous tree found in the W. Indies, and also to that of *Iporosa dioica*, a Bengalese and Burmese tree of the order Euphorbiaceae.

Kokura, seaport tn. in Kushiu, Japan, 100 m. N.E. by N. of Nagasaki. Pop. 110,300.

Kola, tn. of the Murmansk Region of the R.S.F.S.R., and on the peninsula of the same name. It is one of the most N. of Russian tns. Fishing is the main occupation. It is on the Murman Railway, and during the First World War became a depot of supplies from Britain and U.S.A. The Khibin Mts. of the K. peninsula rise to 3000 ft. Long ago the sea invaded the shores of the peninsula, changing its glacial valleys into floods, extensive marshes, and peat bogs. The mean temp. of Valda Gouba on the N. shore of the peninsula is -21.50°F . There is a new mining settlement at Kirovsk in the peninsula, which contains large nepheline and apatite deposits, as well as considerable quantities of molybdenum, rare earths, and sulphate of iron. Chemical fertilisers are manufactured from the apatite and other minerals. In the hills around Lake Imandra copper, iron, and nickel are mined. Pop. 600.

Kolapur, see KOLHAPUR.

Kolar: 1. Cap. of K. dist. in Mysore, India, 43 m. E. of Bangalore. Turkey rearing for export is carried on, and the manuf. of blankets. Pop. 20,000. The K. goldfields in the dist. of K. produce nearly all the gold output of India. They cover an area of 14 sq. m., and the city called the K. Gold Fields has a pop. (as given before the Second World War) of about 50,000. K. dist. has an area of 3165 sq. m. and a pop. of 837,000. 2. Large freshwater lake, situated midway between the deltas of the Kistna and Godavari Rs. in the Madras presidency. It drains into the bay of Bengal on the E. The area is 100 sq. m., but this is being reduced by embankments, etc. In the dry season traces of anct. vils. may be observed in its bed.

Kolarians, name given by Sir G. Campbell (1866) to various hill-tribes of Central and E. India (c. 2,000,000-3,000,000 in number), dwelling in the jungle and mt. dists. W. and S.W. of Calcutta in Bengal. They represent the most primitive element in the pop. of Hindustan, and were probably some of the earliest inhab. of the peninsula. There are about ten chief tribes and Kolarian languages, including the Munda-Kols of Chota Nagpur, the Larka-Kols or Jio of the Singbhum dist., the Bhumij of W. Bengal, the Santals, the Karis, and the Juang or Patun. These latter are the lowest type, mere hunters and fruit-gatherers with very little civilisation. Kol is the basis of the word

coolie, these people being very ready to hire themselves on the contract system. Some ethnologists class K. with Dravidians, but the former are far less cultured, and their language is radically different. See E. Dalton, *Descriptive Ethnology of Bengal*, 1872; R. Caldwell, *The Languages of India*, 1875; H. Cust, *Modern Languages of the E. Indies*, 1878; Nottrott, *Grammatik der Kolsprache*, 1882; H. Rowney, *Wild Tribes of India*, 1882; E. Galt and H. Hsley in *Census of India*, 1901, 1903.

Kolberg (Pomerania), see KOLOBRZEK.

Kolchak, Alexander Vasilievich (1874-1920), Russian admiral and soldier. Entered the naval service in 1891, and was promoted to officer's rank in 1894. In 1903 he organised an expedition for the relief of Baron Tol and his companions from the yacht *Zarya*, who had wintered on Bennett Is. In a small whaling boat with a crew of seven men, K. crossed the Arctic from the estuary of the Lena to the Is. and back. Tol having undoubtedly perished, K. brought away the explorer's collections and memoranda, and for his own services in exploring the ice of the Kara Sea and Arctic Ocean was awarded a prize by the Academy of Sciences. During the Russo-Jap. war he distinguished himself in the defence of Port Arthur, and received a series of military distinctions. From 1906 to 1912 he was on the naval general staff. In 1913 and 1914, before the First World War broke out, he was in command of the torpedo boats *tsuriets* and *Pogranichnik*. In 1916 he was promoted to rear-admiral, subsequently being appointed to independent command in the Baltic, and still later was promoted to vice-admiral and commander of the Black Sea Fleet. After the Bolshevik coup of 1917 the hopes of the Whites or anti-Bolshevik elements were largely centred on Adm. K., whose military successes at first were such that he rapidly attained the position of virtual ruler of Russia. The high-water mark of his success was reached in 1918, when his armies advancing from the Ural reached the line Cherepovets-Samara-Orenburg. But from 1919 he gradually lost ground, and after losing his guns and supplies at the end of the year he was forced to retire further eastward. The revolutionary outbreak in Vladivostok definitely threw the whole of Siberia open to Bolshevik influences, and K.'s hopes were finally dispelled. He was eventually shot at Irkutsk.

Kolding, tn. of Jutland, Denmark, situated in Vejle co., on the K. Fjord, 29 m. S.S.W. of Horsens; the depth of the harbour is 20 ft. The royal castle of Koldinghus, dating from 1248, was burnt down in 1808. Pop. 23,000.

Kolguel, or **Kalguel**, ls. in the Archangel Region of the R.S.F.S.R., extending from $66^{\circ} 42'$ to $69^{\circ} 30'$ N. lat., and from $48^{\circ} 15'$ to $49^{\circ} 55'$ E. long. It is visited by hunters for walrus, white bears, and various species of birds. Area 1350 sq. m.

Kolhapur, formerly an independent feudatory Deccan state in the Bombay presidency of Brit. India, and the largest of the Deccan states. After 1933 it formed an agency with Deccan, Janjira, and other

states previously in political relations with the gov. of Bombay. In 1949 it merged with Bombay Prov. A Mahratta principality, whose rulers were by tradition the heirs of Shivaji, the founder of the Mahratta empire 300 years ago, K. was the most prominent state (up to 1919) to submerge its identity with the prov. rather than join one of the new groups or unions of states (see on this INDIA, *Effect of Indian Independence on the Indian States*). In its independent days K. was well governed and prosperous. It extends from the midst of the W. Ghats into the plain of the Deccan; iron ore is found, and stone quarried. The surface is level in the E., and the sugar-cane, rice, cotton, tobacco, and vegetables are grown; there are manufs. of hardware and pottery. Its area is 2816 sq. m., and its pop. about 1,000,000. The cap. of the state, K. (pop. 80,000), is a picturesque tn. with sev. fine public buildings. It was formerly a Buddhist centre, and many Buddhist remains are to be seen in the tn. and vicinity.

Kolín, or **Neu-Kolín**, tn. of Bohemia, Czechoslovakia, on the Elbe, 40 m. E. of Prague. In the battle of K., 1757, Frederick the Great attacked the entrenched Austrians under Marshal Daun, and was defeated. Pop. 18,500.

Kolivan, tn. in the Novosibirsk Region of the R.S.F.S.R., on the R. Ob, 120 m. S.W. of Tomsk. Pop. 12,000.

Kolmar, see COGNAC.

Koln, see COLOGNE.

'Kölnische Zeitung', Ger. daily news paper, pub. at Cologne. It was of very long standing, having been pub. for more than two centuries, with the exception of a short break between 1809 and 1813, when it was suspended by Napoleon. Its most distinguished editor was Joseph Dumont, who accepted the post in 1847, and conducted the paper through the stormy period following on the revolution of 1848. It ceased pub. in 1945.

Kolobrzeg (Ger. **Kolberg**, or **Colberg**), Polish seaport, 2 m. from the Baltic, 76 m. N.E. of Stettin, formerly Ger. There are iron-foundries and saw-mills; the manufs. of woollens, spirits, and machinery is carried on, and there is salmon and lamprey fishing. K. was captured by the Swedes in 1631, attacked by the Russians in 1758, 1760, and 1762, and by the Fr. in 1806. In the Second World War it was reached by Russian forces on Feb. 4, but not captured until March 18 owing to the strength of the outer defensive ring round Königsberg. It is included in the ter. ceded to Poland after the war.

Kolomea (**Kolomyja**), tn. of Galicia, in the Chernovitsk Region of the Ukrainian S.S.R. It is situated on the R. Pruth, 45 m. W.N.W. of Chernovitsk (Chernowitz), at the foot of the S. slope of the Carpathians. Austro-Ger. troops occupied it in July 1918. It has petroleum refineries and potteries. The Gers. were driven out of K. by Zhukov's Russian troops in their final thrust to the Carpathians (March 29, 1944). Pop. 34,000.

Kolomna, tn. on the R. Moskva, 72 m. S.E. of Moscow, in the Moscow Region of the R.S.F.S.R. It is an industrial tn.,

E.E. 8

having starch works, cotton and silk mills, locomotive works, and tanneries. The marmalade *poshila* is made here. Pop. 75,100.

Kolonnes, Cape, see COLONNIES.

Kolonos Hippios, see COLONUS.

Kolozsvár, see CLUJ.

Kolpino, tn. of the Leningrad Region of the R.S.F.S.R., 17 m. S.E. of Leningrad, on the Izhora R. It has gov. iron works. Pop. 8500.

Koltsov, Alexei V. (1809-12), one of the true peasant poets of Russia. Son of a cattle-dealer. A chance encounter with an influential literary man opened to him in 1831 the columns of the *Literary Gazette*. In 1835 he pub. his first book of



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poems. But he remained dependent upon his ignorant and tyrannic father, and, lacking the care necessary to a man of poor constitution, succumbed to tuberculosis. His poems are concerned mainly with the peasants he knew so well, and he preserved in his verses the freshness and simplicity of their language and thoughts.

Kolyma, riv. of E. Siberia, rising in the Stanovoi Mts., flowing into the Arctic Ocean in 69° 30' N. after a course of 1110 m. The K. depression contains areas of considerable altitude, such as the Yukaghir and Alazeya plateaux (700-1300 ft.). In recent years a rich auriferous dist. has been developed in the upper K. region. It is connected by a motor road with Magadan.

Kolyvan, see KOLIVAN.

Koin, see KUM.

Komarno, tn. of Galicia, in the Lvov region of the Ukrainian S.S.R., 20 m. S.W. of Lvov (Lemberg). In the Second World War K. was captured by the Russians on March 28 in their advance toward Vienna. Pop. 6000.

Komárno, or **Komorn**, tn. of Slovakia, Czechoslovakia, and cap. of the co. of Komárom, at the confluence of the Danube and the Váh, about 48 m. N.W. of Budapest. The fortress is situated quite near

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the tn., the fortifications having been constructed by Matthias Corvinus. It was successful against the Austrians in 1848-1849. Before the First World War it was Hungarian. Pop. 21,000.

Komati, riv. of S.E. Africa, which flows first E. through the Transvaal, then N. near the E. frontier of the Transvaal, discharging into Delagoa Bay.

Komatsu, tn. of Japan, situated near the N.W. coast of Honshu, 117 m. N.N.E. of Kyoto. There are manufs. of silk gauze, and most of the clay for the Teraï and Kanagawa potteries is obtained here. Pop. 15,000.

Komenski, John Amos, *see* COMENIUS.

Komi (Zyryan), autonomous Region of the R.S.F.S.R., situated in the Pechora Basin, between the Archangel Region and Siberia. The railway from Kotlas to the Kara Sea coast traverses the region. Its chief tn. is Syktyvkar. Reindeer breeding is of importance; furs, timber, tar, and pitch are produced.

Komorn, Czechoslovakia. *see* KOMARNO.

Komotau, *see* CHOMUTOV.

Komsanolsk, tn. in the Khabarovsk Ter. of the R.S.F.S.R., on the R. Amur, developed after 1926. It is a railway junction for Vladivostok and Nikolayevsk; there are shipyards, iron and steel works, machine-tool, wood, and leather industries, and oil-refineries. Pop. 70,700.

Komura, Marquis Jutaro (1855-1911), Jap. statesman and diplomatist. *b.* at Iiuga. He completed his education at Harvard Univ., graduating in 1877. He was appointed minister for foreign affairs in 1901, and continued the negotiations with Russia during the war of 1904-5. He was appointed by the mikado to meet the Russian plenipotentiaries at Portsmouth in Sept. 1905, when the Portsmouth treaty was signed; and in Nov. of the same year he met the Chinese representatives at Peking, when the treaty of Peking was signed. It was in great measure through his exertions that the second Anglo-Jap. alliance was concluded. Created K.C.B. by King Edward VII. In 1906 he resigned from his ministership, and, becoming a privy councillor, came as ambas. to London. In 1908 he returned to Tokyo, and was again minister for foreign affairs in the second Cabinet of Prince Katsura.

Konakry, or **Conakry**, cap. of Fr. W. Africa, situated on the is. of Tombo at the mouth of the Dubreka, in lat. 9° 30' N. and long. 13° 40' W. It is connected with the mainland by an iron bridge. Coffee is cultivated, and the tn. has many factories. It is connected by rail to the Niger, and is visited regularly by steamers; it has a wireless station. France occupied Kaloum and the île de Tombo in 1882, in order to strengthen her newly won protectorate of Fouta Djallon. It was from this occupation that K. arises to-day. Pop. 13,600.

Kondyles, George (1879-1936), Gk. general and parliamentarian. After experience as common soldier and guerrilla fighter against the Bulgarians, became colonel in the First World War. Rev. times left the army and reappeared - e.g. 1923 to crush anti-republican rising.

Entered Parliament 1923, and was minister of interior - resigned 1925. Banished by dictator Pangalos, he returned and carried out a coup (Aug. 22, 1926) overthrowing Pangalos. Assumed premiership to secure fair elections, then retired. Returned to political life in 1932 as war minister; crushed the Venizelist revolt of March 1933, and was hailed as the saviour of his country. Opposed to the republican constitution, he proclaimed himself regent, and brought about the restoration of the monarchy, George II. being put on the throne in Nov. 1935.

Konev, Ivan Stepanovitch (b. 1897), Russian soldier, son of a peasant; commanded armies in the Second World War which won many great battles, especially those leading to the liberation of Kharkov and Kirovograd. Associated with the Red Army (g.r.) almost from its inception. With his wife he organised guerrilla or partisan warfare in the Far E.; and, in the Russian civil war, fought against Adm. Kolchak's (g.v.) forces. Subsequently trained and commanded a force which fought against the Jap. In July 1917 he took part in the suppression by the Petrograd Soviet of the Kronstadt revolt led by Lenin and Trotsky (*see* WORLD WAR, FIRST, *Keensky becomes Prime Minister*). After the civil war he resumed his military training at the Frunze Academy. He was Russian commander in the W. when the Ger. invasion was launched in June 1941, and in that year led the first organised counter-attack against the invaders. He was then sent to organise the N.W. front force which took part in Zhukov's counter-offensive from Moscow (Dec. 1941). In mid 1942 he commanded the forces sent against the Gers. in the Rzhev area, thereby holding down large forces which would otherwise have gone to the relief of von Paulus at Stalingrad. Took Kharkov (Aug. 1943). Stormed Cherkassy, last great Ger. base on the Lower Dnieper R. (Dec. 1943). Took Kirovograd (Jan. 1944); Krivoi Rog (Feb. 1944). Opened the W. Ukrainian offensive (March 4, 1944), breaking through on a front of over 110 m., routing fourteen Ger. divs., and opening the way for a rapid sweep towards the Bug It. The advance of his second Ukrainian group through the Ukraine in an almost unchecked drive which took his forces into and across Bessarabia estab. his reputation as one of Russia's ablest commanders. In July (1944) he launched a great assault on a 125-m. front between Lutsk and Ternopol, shattering all Ger. calculations, and drove across the Bug, took Lvov (Lwow), and barred the way to the Carpathian passes. Having captured Przemyśl and Jaroslav he drove on to the Vistula, crossing that riv. S. of Warsaw, and breaking through the last Ger.-held base outside Germany. In 1945 his armies crossed the Oder and conquered Silesia (*see also* EASTERN FRONT OF RUSSO-GERMAN CAMPAIGNS IN SECOND WORLD WAR). Awarded the order of Suvarov (Suvorov) 1943. Marshal of the Soviet Union, 1944. Appointed commander-in-chief of the Soviet Army at the end of 1946. In 1947

awarded the order of Lenin—highest decoration of the U.S.S.R. Became Soviet representative on the Allied Control Commission in Vienna after the war.

Kong: 1. Tn. in the K. dist. of Ivory Coast Colony, Fr. W. Africa, situated in the N. of the colony to which the dist. was attached in 1893. K. surrendered to Lt. Binger in 1887. K. has a trade in cloth and gold. Pop. 13,000. 2. Name given to a range of mts. which were supposed to run parallel with the Guinea coast of W. Africa. The expedition of Capt. Binger, in 1888, discovered that such a range did not exist, but that the region is of a plateau nature with peaks reaching 6000 ft.

Kongju, tn. of Korea, situated 80 m. S. by E. of Seoul.

Kongmun, tn. of China, in the prov. of Kwangtung, situated near the Hsi Kiang, 47 m. S.S.W. of Canton. Pop. 75,000.

Kongsberg, tn. in the Norwegian prov. of Buskerud, 43 m. W.S.W. of Oslo, on the R. Laugen. It has gov. silver mines, discovered in 1623, iron mines, a royal mint, munuf., of arms and gunpowder, and a fine church. Pop. 6,000.

Königsgratz, see **HRADČ KRÁLOV**.

Königinhof, see **DIET KRÁLOV**.

Königlische Weinberge, see **WEINBERGE**. **Königsberg.** 1. Tn. and fortress, and formerly cap. of E. Prussia, now a Russian tn. called Kaliningrad (*q.v.*). 2. Tn. of N. Brandenburg, Germany, 35 m. S.W. of Stettin. Pop. 7,000.

'Königsberg.' Ger. raiding cruiser which, after destroying a dozen merchantmen off the E. African coast, was eventually trapped and destroyed in shoal waters up the Ruffi R., July 11, 1913, in Ger. E. Africa. See **AFRICA (GERMAN EAST CAMPAIGN IN FIRST WORLD WAR)**.

Königsfeld, tn. of Moravia, (Czechoslovakia, formerly Austria, 3 m. N.N.W. of Brno. Pop. 10,500.

Königshutte, see **KRÓLEWSKA HUTA**.

Königsmark, **Maria Aurora**, Countess of (1662-1728), sister of Count K., b. at Stade in N. Germany. She became the mistress of Augustus the Strong of Poland, and had a son by him, the famous Marshal de Saxe. In 1697 she was made abbess of Quedlinburg, but lived in Dresden, Berlin, and Hamburg. Her beauty was as remarkable as her intellectual qualities, and she was described by Voltaire as the most famous woman of two centuries.

Königsmark, **Philipp Christopher**, Count of (1662-94), Swedish officer of noble birth, and friend of Augustus of Saxony. He is chiefly remembered as the lover of Sophia Dorothea, wife of the electoral prince, George of Hanover, who afterwards became George I. of England. On the discovery of the intrigue K. was assassinated.

Königssee, lake in the extreme S.E. of Bavaria, Germany, surrounded by precipitous walls of rock, among which is the Watzmann Mt. (8800 ft.). In the midst of the waters is the castle of St. Bartholomew. The lake has a length of 5 m., a perimeter of 17 m., and a depth of over 700 ft., and drains ultimately into the Spitzach, a trib. of the Inn.

Königsstuhl, name of the summit of the chain of the Black Forest on the r. b. of the R. Neckar, having an altitude of 1900 ft. above sea-level. In ant. times it was here that the electors of Germany used to choose their emperor.

Königsstein, tn. in Saxony, Germany, situated close to the l. b. of the Elbe, 22 m. S.E. of Dresden. Its ant. fortress is built on a rock 1180 ft. above sea level and 750 ft. above the surrounding country, and was one of the few in Europe never taken. Paper-making is carried on in the tn. Pop. 1000.

Königswinter, tn. in the Rhineland, Germany, situated on the r. b. of the Rhine with the Diablenfels behind it. Pop. 4,500.

Konkan, or **Concan**, tract of country in the Bombay Prov., India, extending for 200 m. near the sea from Goa to Daman, and varying in width from 1 to 50 m. Rice-fields, and coco-nut plantations are cultivated, and the dist. is subject to violent monsoon rains. Area 3907 sq. m. Pop. 1,000,000.

Konkani Language, see under **INDO-EUROPEAN LANGUAGES**.

Konotop, tn. in the Ukrainian S.S.R., 83 m. E.S.E. of Chernigov. It was the chief Polish frontier fortress from 1635 to 1648. In their advance on Sept. 2, 1913 the Russians cut the railway from K. to Irlansk. Bitter fighting followed but on Sept. 6 K. was enveloped and carried by storm. See **EASTERN FRONT OF RUSSO-GERMAN CAMPAIGN IN SECOND WORLD WAR**.

Konrad von Würzburg, see **CONRAD VON WÜRZBURG**.

Konstantinovka: 1. Tn. of the Ukrainian S.S.R., on the Bug R. Munuf. chemicals and cotton fabrics. Pop. 81,000. 2. Tn. of the Khabarovsk Region of the R.S.F.S.R., on the R. Amur. Pop. 95,000.

Konstanz, see **CONSTANCE**.

Kontich, tn. in Belgium, 7 m. S. of Antwerp, engaged in agriculture, brickworks, and munuf. of machinery. It has also diamond-polishing factories. Pop. 9100.

Konya (ant. Iconium): 1. Vilayet of Asiatic Turkey with a pop. of 687,200. 2. Cap. of the vilayet of K.; a walled tn. situated at the S.W. extremity of the central plain, 143 m. S. of Ankara. K. is an archiepiscopal see of the Gk. Church, and has munuf. of woollen goods, leather, and carpets. There are good forest lands in the vilayet; mercury and chrome ore are found. There are many interesting ruins in the tn. From 1097, when Nicea was captured by the crusaders, K. was the cap. of the Seljuk sultans. The tn. was much visited by fugitives from Persia, etc. At the time of the Mongol invasion the Osmanli empire captured it in 1472. Of recent years the prosperity of K. has increased. Pop. 1000.

Koodoo, see **KUDU**.

Kookaburra, see **LAUGHING JACKASS**.

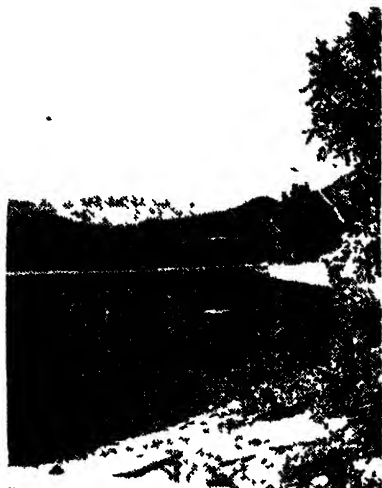
Koomassie, see **KUMASI**.

Kooringa, or **Burra**, tn. of Burra Co., Australia, on Burra Creek, 100 m. N.E. of Adelaide. The first copper mine

worked on a large scale, dating from 1845, is near and silver is also found. Pop. 2000.

Koosee, see **KUAI**.

Kootenay Lake, narrow expansion of the K. R. (q.v.), Brit. Columbia. It is 75 m. long and $1\frac{1}{2}$ to 3 m. wide.



Agent General for British Columbia

KOOTENAY LAKE AT GRAY CREEK

Kootenay River, riv. of Brit. Columbia which rising in the Rocky Mts. in a small lake at the foot of the Beaverfoot Range, flows S. and N.W. through the states of Montana and Idaho for 150 m., and enters the prov. again in a northerly direction. It empties into the S. end of K. lake, emerges from the W. arm at Nelson and flowing S.W. enters the Columbia R. at Castlegar. Total length 406 m. Canadian Pacific Steamships ply on the lake, but the riv. itself is too rapid for traffic. Almost all the terr. it drains is highly mineralised.

Kopais (anc. Topolias), see **COPAIS**.

Kopak, or **Copak**, name of a small Russian copper coin, the hundredth part of a rouble, its nominal value before the Second World War being three-eighths of a penny.

Köpenick, or **Cöpenick**, suburb of Berlin in the prov. Brandenburg, Germany, 8 m. S.E. of Berlin, in which it was included in 1920. It is situated on an is. in the Spree. It has manufs. of shoddy, chemicals, glass, linoleum, dyestuffs, carpets, and sugar. Notorious for the exploits of the 'captain of Köpenick,' a shoemaker (Wilhelm Voigt), who in 1906, masquerading as a military officer, induced the burgomaster of K. to part with the municipal funds, which were not returned.

Kopje, Cape Dutch word, from *kop*, head, meaning a small flattened hill. In the S. African war they acquired a sinister significance, being used as a cover for Boer marksmen.

Kopparberg, see **FALUN**.

Kopreinitz, see **KAPRONCZA**.

Köprili, or **Kuprili**, Albanian family, sev. of whose members became celebrated Turkish statesmen. The most famous are **Mohammed** (1585-1661), who became grand vizier at the age of seventy, and waged war with the Venetians, capturing from them Lesbos and Tenedos. He also subdued Transylvania and fortified the Dardanelles. His brother, **Husein** (c. 1620-1702), was appointed grand vizier in 1697. Finding that Turkey could no longer resist the forces of the Ger empire, he concluded the treaty of Carlowitz (1699). **Imred** (1630-76), son of Mohammed, became prominent at an early age, and was made grand vizier in 1656. He resolutely opposed the imperial forces and invaded Transylvania. Though he was unsuccessful in the field, sustaining defeat at St. Gotthard, he succeeded in obtaining the peace of Vasvár, by which the Turks retained the fortress of Grosswardin. **Mustafa** (c. 1640-91) brother of Ahmed, who saved the life of Solymán (Suleiman) III. during the rebellion against Sultan Mohammed IV. and was, on the former's accession, made grand vizier. He carried on a vigorous campaign against the imperial forces, driving them from Bosnia and Serbia, capturing Belgrade, and assisting Emirich Tokoly to become king of Hungary.

Koprili, **Koprulu**, or **Kuprili**, tn. in Macedonia, Greece, situated on the R. Vardar at an elevation of about 600 ft. It has a considerable trade in silk. Pop. 15,000.

Kopru-Su, see **ETRYMDON**.

Korah, Israelite, the story of whose rebellion against the sacerdotal pretensions of the Levites is told in Num. xvi. Here we read how, on account of their rebellion against Moses, Korah, Dathan, and Abiam were all destroyed at the word of Moses.

Koran, **The** (Arabic *qur'an*, recitation), the sacred book of Islam, consists of the 'revelations' received, according to its founder Mohammed, from God, and compiled after the prophet's death, by his secretary, Zaid ibn-Thabit, by order of the Caliph Abu-Bekr. The book is written in Arabic, and consists of 114 suras or chapters of varying length, which are arranged according to size, the longest first. They are not numbered, but bear distinctive headings, such as the Cow, the Star, Congealed Blood, etc., taken from the particular chapter. Every chapter but one begins with the formula, 'In the name of God, the Merciful, the Compassionate.' The chief doctrines contained in the book are that there is one God, one true religion, and a day of judgment, and that at certain times God sent prophets to bring men back to the truth, the greatest being Moses, Christ, and Mohammed. There are vivid pictures of rewards and punishments and stories taken from the Bible, the Apocrypha, and the Midrash.

Then there are special laws and directions, particularly as to complete resignation to God's will. The Jewish influence is very evident throughout, and Mohammed's ideal was to unite in one the three chief religions he found in his country, Judaism, Christianity, and Heathenism. The K. is held in the utmost reverence by all Muslims. See Eng. trans. of the K. by G. Sale, 1731; E. M. Wherry, 1881-86; J. M. Rodwell, 3rd ed. 1909; E. H. Palmer (World's Classics) 1929; R. Bell, 1939. See also Sir W. Muir, *The Koran, its Composition and Teaching*, 1878; W. St. C. Tisdale, *Sources of the Qur'an*, 1905; and J. Horowitz, *Koranische Untersuchungen*, 1926.

Korannas, Koranas, Koras, or Koras-quas, tribe belonging to the Hottentot family, though with an admixture of foreign elements, which dwells along the Orange R. and in Cape of Good Hope. They revolted in 1882 and were forcibly suppressed.

Korassan, see KHORASAN.

Korat, cap. of the prov. of Nakawn Raja, Sema, Siam. It lies 170 m. N.E. of Bangkok, with which it is connected by rail. It is situated in a silk-producing dist. Pop. 12,000.

Korula, see CORZOLA.

Korda, Sir Alexander, Brit. film producer, of Hungarian origin, b. 1893 in Turkey, Hungary. Educated at the Royal Univ., Budapest, he began life as a journalist. Entering the film industry in 1915 he produced and directed films in Budapest, Berlin, Paris, London, and Hollywood. Settling in England, he formed the London Films Company (1932), and during the next eight years did much to make Brit. films the equal of Hollywood productions. From 1940 to 1943 he was in Hollywood; then returning to London he linked his company with Metro-Goldwyn-Mayer to form M.G.M.-Brit. Productions. In 1945 he resigned and concerned himself solely with the work of London Films Productions Ltd., of which he became chairman. Among many notable films made by him were *The Private Life of Henry VIII.*, *The Scarlet Pimpernel*, *Sanders of the River*, *Rembrandt*, *The Four Feathers*, *The Lion has Wings*, and *Perfect Strangers*. In 1939 he married the film actress, Merle Oberon, the marriage being later dissolved. He was knighted in 1943.

Kordofan, prov. of Anglo-Egyptian Sudan, between Darfur and the White Nile. More than half the surface of 114,000 sq. m. is flat, but in the S.E. quarter some 50,000 sq. m. in extent is the Jebel Nuba, a tumbled series of rocky massifs rising from the plain, honey-combed with caves and thickly populated by black aboriginal Nuba pagans living in autonomous groups under the control of their *mekis* and rain-makers and observing the cult of the spirits of the dead. In N. K., as well as in part of Kasala, are the great grazing areas beloved of the nomadic Arabs whose wealth consists of camels and sheep. During the rainy season, which lasts from June to Sept., the vegetation is luxuriant, but in the dry

season the country is almost a desert. The development of the inland water supply by a well-boring programme was begun in 1924. The climate is fairly healthy. Rich gum forests are found, and groundnuts, cotton (Amer. cotton has proved successful), tobacco, and millet are grown, and ostrich feathers, gum arabic, hides, and ivory are exported. The most important tribes are the Nuba, Shilluk, and Dinka. The most important of the elements of non-Arab origin in the Anglo-Egyptian Sudan are those to be found in K. (and Darfur). The cap. is El Obeld. Area 114,000 sq. m. Pop. about 600,000. In 1883 the Mahdi, in spite of the gallant defence by Mohammed Pasha Saïd, took El Obeld by storm. The Egyptian Gov. then sent a mob of untrained fellahin from Cairo under Gen. Hicks without regard to the consequences. In the succeeding Nov. the unfortunate Hicks and his army were ambushed and annihilated at Shekan to the S. of El Obeld and large stores of arms fell into the hands of the dervishes. Following the Brit. re-occupation in 1898 K. was added to the number of provs. (1899) of the Sudan. Before the coming of the Turks it had been an appanage of Darfur. In 1925 K. Prov. was amalgamated with the prov. of the Nuba Mts., which had been a separate prov. since 1913. See Sir H. MacMichael, *The Anglo-Egyptian Sudan*, 1934; S. F. Nadel, *The Nuba: an Anthropological Study of the Hill Tribes in Kordofan*, 1947.

Korea, or **Corea** (Chosen, Daihan), peninsula of E. Asia, lying between the Yellow Sea and the sea of Japan. It is separated from Manchuria and, for some 10 m., Siberia on the N. by the Yalu and Tumen Rs., and from Japan on the S. by the K. Strait, 192 m. wide. Its area is 85,136 sq. m., and it is about 600 m. long by 195 m. wide. A cordillera traverses the peninsula throughout its length; the mts. slope precipitously and are very near the coast on the E. side, leaving only a narrow strip of land available for cultivation. On the W., however, the mts. have a gentler slope, and as this portion is well watered, it is exceedingly fertile. The highest point in the range of mts., Mt. Paektu-shan, reaches 8700 ft. The mts. have been almost entirely denuded of the forests that should naturally cover them; from 1905 the Jap. endeavoured to put this right by afforestation. Many bays and harbours are found round the W. coast, and many is., the greatest being Quelpart on the S.W. On the S. and E. coast harbours are not so numerous. The tides are strong and the waters shallow off the W. coast, deeper on the E., and almost tideless. The chief rivs., the Yalu, the Tai-dong, and the Han, are all navigable for some distance. The fauna includes stags, hares, foxes, wolves, sables, tigers, which are rapidly becoming extinct, and panthers. The climate is temperate and regular, and very healthy, and earthquakes, hurricanes, etc., are unknown.

The country is mainly agric., and the prin. crops are wheat, cotton, rice, millet, hemp, beans, and tobacco; fruit-growing

is a developing industry. The cultivation of cotton on a large scale was begun by the Jap. in 1901, and continued with success. Silk worms are being increasingly cultivated. Gun-cotton, silk, and tobacco are produced. Korean cattle are a good and well known breed and are generally used in agricultural work. The minerals of the country include coal, iron, copper, mica, graphite and most important, gold. The fishing industry was developed under Jap. influence. The peanuts are still in a

Mokpo, Kusan, Seishin, Heijo, Rashin, Yuki, Joshin, and Shingishu. Ping yang is an inland port on the Tai dong. The privilege of owning mines in K. was extended to foreigners by the Mining Regulations of 1906.

Koreans belong to the Mongol family but are distinct in features, dress, and customs from both the Chinese and Jap. The former language is much used for literary purposes though there is a Korean script called Hangeul. The spoken tongue is



A KOREAN LANDSCAPE
Illustrating traditional life

rather backward state. They include the making of hemp cloth, an excellent kind of paper and brassware. From the beginning of the twentieth century the trade of K. increased enormously. The chief import of the country are cotton, silk, and woolen goods, metal and firearms. The chief exports are gun-cotton, beans, rice, cotton, silk, cattle, hides, fish, grain, and gold and iron ores. The main rail ways are from Seoul to Kusan (a distance of 267 m.), from Kusan to Misanpo, from Seoul to the Yalu (300 m.), and from Chumulpo to Seoul (30 m.) besides several branch lines. The total mileage in 1940 was 2919 (gov. railways). There were also 1234 m. of private railways. The gov. railways were all the property and under the control of Japan. The principal open ports are Kijŏ (Seoul), Insan (Chumulpo), Kusan, Gensan, Chinnampo,

longs to the Turan group of languages and is poly syllabic having eleven vowels and four or five consonants. It is intermediate between Mongolian and Jap. with a large admixture of Chinese words. Hangeul is used for official correspondence. Since 1905 and during the Jap. occupation much was done to improve the educational system but up to the time of the 1930s some 90 per cent of the pop. were illiterate. In 1935 the system of separate schools for Jap. and Koreans was abolished but secondary and higher education were for financial reasons enjoyed chiefly by the Jap. The knowledge of Chinese classics, and of Confucian doctrine once held to be essential to an upper class education, yielded under Jap. influence to a more practical system of instruction. Shinto being the Jap. national religion shrines were being estab. through-

out K., and attendance at the shrines on stated occasions was obligatory on gov. officials and others.

The native annals date back to 57 B.C., but until the fourth century have little historical value. Although from the fourth century B.C. until the tenth century A.D. civil wars and foreign aggressions are prominent, nevertheless Hlaksi, which with Korai and Shinra then constituted K., was a centre of literary culture in the fourth century, through which the Chinese classics and the art of writing reached the other two kingdoms. Buddhism, a forceful civilising element, reached Hlaksi in A.D. 384, and from it the sutras and images of N. Buddhism were carried to Japan, as well as Chinese letters and ethics. Intercourse wars were ended about 913 by Wang the Founder, who unified the peninsula under the name of Korai, made Song-do (Keijo) its cap., and endowed Buddhism as the state religion. K. aided Kublai Khan as a vassal of China in his futile invasion of Japan in the thirteenth century. In 1392 was founded the dynasty which reigned until 1910, and the country was named Chosen. During the fourteenth century, Confucianism was estab. as the state religion instead of Buddhism. From 1592 to 1597 the Jap. occupied K., but were driven out by the Chinese. Christian missionary effort was begun at the end of the eighteenth century, but until relations had been opened with foreign countries the missionaries were severely persecuted. There are now many Christian converts, but ancestor-worship is still predominant. Treaties were made with Japan in 1876, with U.S.A. in 1882, and with Great Britain in 1883, and with most European countries subsequently. In 1894 the Jap. and Chinese invaded the country to put an end to the unsettled conditions that prevailed. The Chinese were soon crushed, and by the peace of Shimonoseki, 1895, K. was declared independent, the is. of Formosa was ceded to, and an indemnity of \$25,000,000 exacted by Japan. The king in 1897 changed the name of Korea to Daihan, and assumed the title of emperor. By the treaty of Portsmouth, K. was formally made a suzerainty of Japan (see RUSSO-JAPANESE WAR). By the treaty of Aug. 22, 1910, the emperor of K. made a complete and permanent cession to the emperor of Japan of all rights and sovereignty over the country, which was renamed Chosen; the Jap. resident-general was given the title of governor-general. Japan guaranteed to make no change in the existing tariff for ten years. An imperial rescript gave out in 1919 that K. was an integral part of Japan, and the Koreans were to be regarded as on exactly the same footing as the Jap. Pop. (1938) 22,400,000, of whom 630,000 were Jap., and 43,000 foreigners (mostly Chinese). The pop. of the chief ins. was as follows: Keijo (Seoul), the cap., 708,000; Hlajo (Pyong-Yang) 185,000; Talkyu 111,000; and Jinsen (Chemulpo) 103,000. At an allied conference at Cairo (Nov. 1943) between Mr. Churchill, President Roosevelt, and Marshal Chiang Kai-shek it was

agreed (*inter alia*) that K. was in due course to regain her independence. The country was occupied by Amer. and Soviet forces following the Russian attack on the Jap. towards the end of the Second World War. In Aug. 1948 a republic claiming legal authority over all K. was proclaimed in Seoul. Thus, in spite of the policy of Russia, which still isolates K. N. of the 38th parallel from the rest of the country, Britain, the U.S.A., and China have fulfilled as best they can the promise of independence given to the Korean people in the Cairo declaration of 1943. This new state was set up following elections held throughout S. K. in May (1948) under the supervision of the United Nations; but the Soviet authorities did not allow elections to be held in their N. zone, and did not allow the United Nations Commission to go there. Their next step was to create a People's Republic, in which all power was taken by the Communist party, supported by a conscript army trained and officered by Russians. See W. R. Charles, *Life in Korea*, 1948; Mrs. Bishop, *Korea and her Neighbours*, 1899; J. S. Gale, *Korean Sketches*, 1898; A. Hamilton, *Korea*, 1903; W. E. Griggs, *Korea*, 1905; H. Hueng-Wo Cynn, *The Birth of Korea*, 1920; H. B. Drake, *Korea of the Japanese*, 1931; Yungchill Kang, *The Grass Root* (in Eng.), 1931; S. Bergman, *In Korean Wilds and Villages*, 1938; A. J. Grajdanzov, *Modern Korea*, 1944; E. K. Robertson Scott, *Old Korea, the Land of Evening Calm*, 1946; W. B. Honey, *Korean Poetry*, 1948.

Korea, Strait of, channel between the S.E. extremity of the Korean peninsula and the Jap. is. of Kishin. It is 102 m. in width. Near the centre is the is. of Tshushima off which the Russian fleet was destroyed by the Jap., 1905.

Koriaks, or **Koryaks**, Mongoloid people of N.E. Siberia. They are divided into a settled fishing portion and a nomadic pastoral portion. Immense herds of reindeer are owned by the latter. Some of the K. have been Christianised, but the prevailing religion is Shamanism. They are near akin to the Chukchis (*q.v.*). They number about 5000.

Korigaum, see KORYGAUN.

Körner, Karl Theodor (1791-1813), Ger. poet, b. at Dresden. Owing to delicate health he was not sent to school, but was educated privately. At seventeen he was sent to the school of mines at Freiberg, completing his studies at Leipzig and Berlin. His health gave way again, and he was sent to Vienna, where he began writing poetry, and produced two plays, *The Bride* and *The Green Domino*. These being fairly successful, he followed with two tragedies, one of which had for its theme the Eng. story of 'Fair Rosamond.' In 1813 he became a member of Lützow's famous volunteer corps, formed to resist the Fr., but was severely wounded at Kitzingen and later killed near Schwerin. His fame rests on his war songs, entitled *Lure and Sword* (1814), composed in the intervals of battles, the two most popular being *Schwert-Lied* (Sword Song) and *Manner und Muth* (Men and Cowards). See O. F.

Scheuer, Theodor Korner als Student, 1921,
also lives by his father (Fng trans), 1840,
and K. Berger, 1912

Koeneburg, tn of Lower Austria, on the l b of the Danube opposite Klosterneuburg 9 m N W of Vienna. It is a steamboat station and has a trade in salt and corn. Coarse textile goods are manufactured. Pop 8800

Korngold, Erich Wolfgang (b 1897)
Austrian composer, claimed to be partly
of Jewish descent b at Bruenn (now Brno),
son of Julius K. music critic. His work
attracted attention from its then "modern"
harmony. He has written sev operas in
particular *The Dead City* and concertos
for piano.

Kornilov, Lavr Georgievich (1870-1918)
Russian military leader around whom rallied in the Don for in 1917 the anti-revolutionary forces. He was born in Siberia his father being a Cossack officer. In Aug. Sept. 1917 the provisional gov. of Krensky, unable to continue in power sent Prince Lvov to ask K. either to form a new Cabinet or to proclaim himself Dictator or form a directory of three with Krensky and Savinkov. K. very naturally sent an 'ultimatum' to Krensky whom he adjudged to be a shallow lawyer demanding the transference to himself of the whole civil and military power. In the ensuing collapse of Krensky's gov. K. who had fomented a rebellion was thrown into prison in Bykhov whence with Demkin (q.v.) and others he escaped in Dec., and at once aided Alexeyev (q.v.) to form volunteer armies to fight the Soviet. The entire military organisation of this foreign cause was given to K. Alexeyev retaining the virtual, thoughless political and financial side. In spite of overwhelming difficulties K. collected an 'army' of about 100,000 infantry consisting almost exclusively of generals, colonels, lieutenants, cadets, and other boys, and in Feb. March 1918 led this army in prison in the hopeless march on Kuban in the course of which he himself was killed by a shell (see COSSACKS).

Korolenko, Vladimir (1893-1921). Russian novelist and story writer. b at Zhitomir, Little Russia. Of Cosak and Polish extraction. Educated at St. Petersburg Technological State Institute and the Moscow Academy of Agriculture. Worked in a St. Petersburg publishing house till exiled 1919 to Siberia for six years. He began his career as novelist 1918. His best novel is *The Blind Man* (1916). Later, he wrote short stories only. He represented 11 optimistic traditions. D at Poltava in the Ukraine. Collected ed. of his works was pub in Moscow in 1922. See him by F. Hrusler, 1930.

Koroni, see (ORON)

Körös, Alexander Csoma de Kőrös, an Hungarian rising in Transylvania and after a W course of 40 in joining the Hungarians at Hongrád

Korosko, vil. of upper Egypt, on the r. b. of the Nile, 112 m S-W of Assuan. It was formerly the starting-point for caravans crossing the Nubian Desert. Pop. 600.

Korotojak, tn of Russia in the Voro

nezh Region of the R S I S R situated
on the K Don Pop 10,000

Korsakovsk, tn of the Sakhalin Region
of the R S S R (formerly of Japan)
situated on Amura Bay, with a good har-
bour occupied by the Russians in 191,
Pop 30 000

Korsør, seaport on the W coast of Zealand Denmark situated in the prov. of Sorø 61 m W S W of Copenhagen. The harbour is formed by a bay of the Baltic. A trunk ferry to Funen here crosses the Great Belt. Pop. 10,000.

Kortrijk, see **COURTRAI**
Korumburra, tn of Victoria Australia
 situated in Mornington co and 18 m S E
 of Melbourne It is a coal mining centre
 Pop 2700

Korvei, or Korvey, *see* CORVI
Korzeniowski, Teodor Józef Konrad, *see*
CONRAD, JOSEPH

Kos, Cos, Stanko, or Istankuei, is some 25 mi long, with an area of 11 sq km at the mouth of the gulf of Hilarus, in the Aegean Sea off the S.W. coast of Asia Minor. Agriculture is highly developed. Grapes (especially sultana muscals) and maize, sesamum seed, olive, and melons are the chief exports. No record of Stanko the only to be the ruins of a Elephas temple the precincts of which were marked out six centuries ago. British forces occupied Kos on Sept 10 1943 but the Germans captured the island on Oct 3 Pop. 0 000. See also DIOPHANTUS.

Kosciuszko (Mt. Townsend) highest mt. summit of Australia with a height of 7328 ft. It is situated in the S.E. of New S. Wales and forms a part of the Australian Alps. In 1897 a meteorological station was established here.



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Engraving after a print (1829) by A. Plezozynski

Kościuszko, Tadeusz Andrzej Bona
wentura (1716-1817) Polish soldier and
patriot, b at Skichnowice in Lithuania.
A love affair drove him to the U.S.A.
(1777), when he fought on the side of the

colonists. Returning to Poland in 1786 he distinguished himself against the Russian invaders in 1792. When the revolution of 1794 broke out he put himself at the head of the national movement in Cracow, and was appointed dictator and commander-in-chief. At first victorious, he was hemmed in by Russians and Prussians at Warsaw, and, forced to take the field, he was defeated and taken prisoner at Maciejowice. Released two years later he made some further effort for the cause of Polish independence without much success, and then retired to follow agric. pursuits in France and Switzerland. He d. in Switzerland, and was buried in Cracow. See M. M. Gardner, *Kosciusko*, 1912.

Kosel, see COSEL.

Kösen, watering-place and summer resort of Saxony, Germany, on the R. Saale, 20 m. E.N.E. of Weimar. Pop. 4000.

Kosfeld, see COSEFIELD.

Kosher, or **Kasher**, Heb. word meaning fit, and therefore opposed to *pasul* (unfit). It is especially applied by Jews to meat which has been slaughtered according to Moslem law.

Kosi, tn. in the United Provs. in the dist. of Muttra, India. Pop. about 11,000.

Kosi, see KOSI.

Kosice, **Kaschau**, or **Kassa**, tn. of Czechoslovakia, on the Hernad, 130 m. N.E. of Budapest, formerly a royal free city of Hungary. It is the seat of a Rom. Catholic bishop, and has a fourteenth-century Gothic cathedral. Here the Austrians defeated the Hungarians in 1849. It has celebrated mineral springs. Manufs. paper, pottery, and tobacco. K. was occupied by Russian forces early in 1915. Pop. 70,000.

Koslin, or **Coslin** (Polish *Koszalin*), tn. of Pomerania, Poland (formerly Prussia), 21 m. E. of Kolberg (Kolobrzeg). The industries include iron founding, and the making of paper, bricks, and mineral waters. There is a cadet academy and a deaf and dumb asylum. Captured by Russian forces on March 4, 1915. Pop. 31,500.

Kosseir, see COSEIR.

Kosovo, or **Kosova**, prefecture of Yugoslavia, with an area of 12,700 sq. m. Formerly, K. was a part of Serbia, and its N. dists. are still known as Old Serbia. The scene of many battles during the Balkan war of 1912-13, and the last stand of the Serbian armies in 1915, from which the bulk reached Albania. Pop. 19,000. See also BLACKBIRDS, FIELD OF.

Kossuth, **Ferenoz Lajos** (Louis) **Akos** (1802-94), Hungarian patriot, b. of noble but poor family at Monok. He studied law at the Protestant college of Sárospatak, and practised for a time, but gave most of his life to the cause of Hungarian nationalism. After serving a sentence of four years for publishing reports of the debates of the National Assembly, he edited for three years (1841-44) the *Pesti Hirlap*, the organ of the National party, and came to be recognised as one of the leaders of the National movement. He was minister of finance in the Hungarian ministry of 1848, and shortly afterwards, when a dispute arose with Austria over

the revolt of the Croats, he declared the independence of Hungary, and practically took the government into his own hands. His triumph was short-lived, and in 1849, after Görgei's surrender of Világos, he was forced to flee to Turkey, where he was made a prisoner, but afterwards released. He then visited England and the U.S.A., living in England for sev. years in close connection with Mazzini. He made sev. further attempts against Austrian rule, but his activities in that direction ceased after the Austro-Hungarian reconciliation of 1867. He d. at Turin. See *Memories of my Exile*, 1880, 1894, autobiography, and O. Zanck, *Kossuth* (Eng. trans.), 1937.

Kostroma: 1. Region of the R.S.F.S.R. lying N.E. of Moscow. The greater part of the surface of the country is covered by forests. Cotton and woollen goods, also wooden articles, are manufactured. Area 33,621 sq. km. Pop. 340,000. 2. Cap. of the region of that name, situated near the confluence of the K. and Volga Rts., 200 m. N.E. of Moscow. It contains a medieval cathedral and carries on a trade in corn, linen, timber, leather, and the manuf. of iron goods and agric. machinery. A univ. was estab. here in 1919. Pop. 121,200.

Koszalin, see KOS-LIN.

Kozzeg, see COSS.

Kota Bharu, seaport and cap. of Kelantan, Malaya. In the Second World War the Jap. began their attack on Malaya and Singapore by a landing near K. Pop. 15,000.

Kotah, walled tn. on the r. b. of the Chambal, cap. of K. state, India, 120 m. S. of Jaipur. Now merged in the united state of Rajasthan. It contains an old and a new palace, many fine temples, besides schools, and the public library (the Crosthwaite Institute). It is very unhealthy. The chief manuf. is that of muslin; hides, oil-seeds, and cereals are exported from the state. Pop. 70,000.

Kotaiba (*Qoteiba*) (d. 716). Persian general, was one of the greatest of Islam's conquerors. Hadidjadj appointed him governor of Khurasan in 704. The following year he took possession of Transoxiana (mod. Bokhara). In 707 he defeated the Chinese, and he afterwards conquered Kashgar, and actually invaded China.

Kotakota, trade port in Nyasaland, on the W. shore of Lake Nyasa. It has a good harbour, and is the chief starting-place of the Arab caravans to the interior. There are only a few white inhab.

Kotayam, or **Kottayam**, tn. in Travancore, Madras, India, 32 m. S.E. of Cochin, noted as being the headquarters of the Syrian Christian Church (Thomas Christians).

Kotelnoi, see NEW SIBERIA ISLANDS.

Köthen, see CÖTHEN.

Kotka, seaport in the prov. of Vilpuri, Finland, on the Helsinki railway. It is a centre of the timber trade, and the chief port for the exports and imports of E. Finland. Pop. 21,700.

Kotokou (reigned A.D. 645-654). Emperor of Japan, added lustre to his name

by the many reforms he accomplished in the prov. administration. Also he appointed three ministers to advise and control a council of eight.

Kotonu, or **Kutanu**, tn. and port of Dahomey, W. Africa. 17 m. W.S.W. of Porto Novo. A railway connects it with Sabé, and another with Porto Novo. It was ceded to France in 1868. Pop. (white), 140.

Kotor, see **CATTARO**.

Kotow, see **KOWTOW**.

Kotri, tn. in the Karadir dist., Sind, Pakistan, on the r. b. of the Indus. Pop. 10,000.

Kotzbus, see **COTTHUS**.

Kotzebue, **August Friedrich Ferdinand von** (1761-1819). Ger. dramatist, b. at Weimar, held various public offices in the Russian service and spent a short time in banishment in Siberia (1800). He was a prolific writer of plays, satires, tales, and historical works. His best-known dramas are *Armuth und Edelsinn* (1795); *Menschenhass und Reue* (1790) Eng. trans., *The Stranger*, 1798; *Die Kreuzfahrer* (1803); *Die Hussiten vor Naumburg* (1803); *Der arme Poet* (1811). His plays are characterised by their sprightly dialogues and skilful delineation of character. K. was a great controversialist, and attacked Goethe as well as quarrelling bitterly with the Rom. school. In 1817 he came to Germany on behalf of the Russian Gov. and distinguished himself by his opposition to the current liberal tendencies. In particular he ridiculed the *Burschenschaft* movement, and was on that account assassinated by a Jena student named Sand at Mannheim. His complete works appeared in 44 vols. (1827-29). See C. Itabany, *Kotzebue, sa vie et son temps*, 1893; W. Sellier, *Kotzebue in England*, 1901; and L. F. Thompson, *August Kotzebue; a Survey of his Progress in France and England* (Paris), 1929; also life by H. Döring, 1830.

Kotzebue, **Otto von** (1787-1846). Ger. explorer, son of August Friedrich K., b. at Reval. He accompanied Krusenstern round the world (1803-6) and made two prolonged voyages to the Pacific, discovering in the former (1815-17) the Suvorov and Krusenstern is. and K. Sound, afterwards visiting in the latter (1823-26) the is. of the Sandwich, Philippine and Samoan groups. He wrote *Die Spanier in Peru* (1795, Eng. adaptation by Sheridan, *Pizarro*, 1799); *A Voyage of Discovery into the South Sea* (trans. 1821); and *A New Voyage round the World* (trans. 1821-23).

Kotzebue, **Paul**, Count (1801-81). Russian general, brother of Otto K. After he had seen service in the Caucasus and Poland, he was given the command of the Caucasian Army. During the Crimean war (1853) he was attached to Prince Gorchakov, and from 1874 to 1880 acted as governor-general of Poland.

Kouka, see **KUKA**.

Koumiss, or **Kumiss**, beverage made from mare's milk fermented and often served up with cooked grain. It is a common refreshment of the Arabs of Africa and some of the tribes of Asia, particularly the Tartars.

Kounrad, tn. of the Karaganda Region of the Kazakh S.S.R., 40 m. N. of Lake Balkhash. A creation of the five-year plans, K. has copper mines, with an ann. output of over 75,000 tons. Pop. 10,000.

Kouropatkin, see **KUROPATKIN**.

Koutouzov, **Mikhail Ilarionovich**, see **KUTUSOV**.

Kouyoumdjian, **Dikran**, see **ARLEN**, **MICHAEL**.

Kovalevsky, **Alexander** (1840-1901), Russian embryologist, b. near Vitebsk; became a prof. at Odessa and St. Petersburg. His research work includes the embryology of invertebrates; the hist. of a simple ascidian (1866 and 1871), and the development of the *Amphioxus* (1867 and 1877). *Balanoglossus* (1866), the worm *Sagitta*, and the brachiopods. He prepared the way for Haeckel's Gastraea theory.

Kovalevsky, **Sophie Vasilyevna**, better known as **Sonja Kovalevsky** (1830-91), Russian mathematician, b. at Moscow, married in 1868 and went to Germany with her husband. She studied mathematics at the univs. of Heidelberg and Berlin, receiving her degree from the univ. of Göttingen in 1874. In 1884 she was appointed prof. in Stockholm. Her greatest distinction was the winning of the Prix Bordin from the Academy of Paris (1888). See studies by Anna Leffler, 1892 and 1891.

Koven, **Henry Louis Reginald de**, see **DE KOVEN**.

Kovno, **Kaunas**, or **Kowna**: 1. Prov. of the Lithuanian S.S.R., with an area of 25,000 sq. m. The surface is mostly plateau, and it is well watered by the Niemen, the Courland Aa, and the Duna, all of which are navigable. There are many lakes and marshes, and forests cover about one-fifth of the area. The climate is mild. There are few industries, agriculture being the chief occupation of the people. Wheat, rye, oats, barley, potatoes, and linseed are exported. Pop. 1,857,000. 2. Cap. of Kovno prov., 56 m. W.N.W. of Vilna. Its factories produce nails and metal goods, mead, and bone-meal. It dates back to the eleventh century, and was a wealthy commercial city in medieval times, but was plundered and burnt by Tsar Alexis in 1655. Stormed by the Gers. on Aug. 7, 1915; the Russian general, who surrendered, being subsequently charged with criminal neglect of duty. Captured by the Gers. 28 June, 1941. It was reconquered by the Third White Russian Army in Aug. 1944. Pop. 153,000.

Kovrov, tn. in the Ivanovo Region of the R.S.F.S.R. on the Gorky line. It has railway works, cotton mills, and iron and copper foundries. Pop. 67,000.

Kowara, see **NIGER**.

Koweit, **Kuwait**, or **Kuwait**, semi-independent state of Arabia, situated along the N.W. shores of the Persian Gulf between Iraq and El Hasa. It has an area of about 20,000 sq. m., but the greater part of its pop. of 60,000 dwells in the city of Koweit, which has the best harbour on the Persian Gulf, and is of great importance, as a port of entry for

guns, rice, coffee, grain, oil, piece goods, etc. It exports horses, pearls, dates, wool, dried fish, specie, and ghee. It is the *entrepôt* for goods to the interior, to Jebel Shammar and Nejd, its export trade being chiefly with India, Persia, and the Arabian coast. The Bagdad railway, as originally planned in 1903 was to have here its terminus, but owing to the Brit. conquest of Mesopotamia during the First World War, it lost that valuable privilege to Basra. In 1914 the Brit. Gov. recognised the sheikdom of K. as an independent gov. under Brit. protection. The Iraqi Airways operate a frequent service between Basra and K. The K. Oil Company exploits the resources of K. and exports crude petroleum. Estimated pop. 100,000, to which an indeterminate number of Bedouin must be added. See H. R. P. Dickson, *The Arab of the Desert, a Glimpse into Bedouin Life in Kuwait and Saudi Arabia*, 1918.

Kowhai, shrub of New Zealand, which grows from 15 to 40 ft. high and has long scarlet or rich yellow pendulous racemes shaped like a curved parrot beak. It is regarded as the national flower of New Zealand.

Kowloon, or **Kaulun**, Brit. peninsula of China, situated opposite the Is. of Hong Kong. It was ceded to the Brit. in Jan. 1861, having been acquired by the Peking Convention of 1860. The tn. of K. stands at the landward end of the peninsula in the prov. of Kwangtung. A railway runs from here to Canton, and the tn. contains the villa residences of the colonists, and also a sanatorium for the troops. The K. European-type suburbs developed extensively during the period 1930-40, the houses being built not unlike those in an average London suburb with the addition of servants' quarters, and, in most cases, of the verandas which the semi-tropical climate requires. See further under HONG KONG.

Kowtow, or **Kotow**, Chinese word made up of *ko*, knock, and *tou*, head. The act of K., or prostration before the emperor consists in kneeling three, allowing the forehead each time to touch the ground. A Chinaman performs a K. as a mark of reverence or homage.

Kozle, see COSEL.

Kozlov, or **Michurinsk**, tn. in the Tarnopol Region of the Ukrainian S.S.R. on the R. Lyssnoi Voronezh. 45 m. W. by N. of Tambov city. Owing to its favourable position, it is an important trade centre. The exports are grain, cattle, meat, eggs, hides, tallow, etc. Pop. 66,000.

Kra, **Isthmus of**, situated about lat. 10° 20' N., connects the Malay Peninsula with the rest of Indo-China. A gap occurs here between the main mt. range and the mts. of the peninsula, and it has been proposed that this shall be the site of a new ship canal; this would shorten the route from Calcutta by nearly 700 m., and that from Burma to Bangkok by over 1000 m. The isthmus was crossed by Jap. invading forces in Dec. 1941, the entire Malayan Peninsula being conquered in two months.

Kragujevac, tn. of Yugoslavia, situated

on the Lepenica, 60 m. S.S.E. of Belgrade. There is an arsenal, cathedral, and college. Captured on Oct. 30, 1915, by Austro-Ger. forces. In the Second World War K. was captured by the Gers. in April 1941, and liberated by Russian troops and Yugoslav partisans on Oct. 21, 1944. Pop. 27,000.

Kraillsheim, see CRAILSHEIM.

Krait, species of Indian cobra (*q.v.*).

Krajova, see CRAIOVA.

Krakatoa, or **Krakatao**, small volcanic is. in Sunda Strait, between Java and Sumatra, in the Malay Archipelago. There was a phenomenal eruption here in Aug. 1883. The sound waves generated by the explosions travelled 3000 m. Stupendous waves, towering 50 ft. high, overwhelmed shores and settlements, caused over 35,000 deaths, and actually reached Cape Horn (7818 m. away). On the is. itself the highlands, which had risen over 1000 ft. above sea level, were replaced by an abyss diving down as many feet below.

Krakau, or **Krakow**, Poland, see CRACOW.

Kraken, fabulous sea-monster, measuring 1½ m. round, which, according to native legend, lurks round the shores of Norway.

Kraimeria, see RHATANY.

Kramotorsk, tn. of the R.S.F.S.R. Pop. 93,300.

Kranach, **Lucas**, see CRANACH, LUCAS.

Krasiński, **Ignacy** (1735-1801), Polish divine and poet. b. in Dubiecko, Galicia, who studied under the Jesuits and in Rome. He became bishop of Ermland or Warmia (1767), and archbishop of Gnesen (Gniezno) (1795). When Poland was divided between Russia and Germany (1772) K. went to Berlin, and in 1780 consecrated the first Rom. Catholic church in Berlin, which had been erected through his influence. His works include *Myśle*, or *Musiad*, a mock-heroic poem, in which mice take the chief parts (1778), and *Satires*, supposed to be unequalled in the Polish language (1778).

Krasni Luch, tn. of the R.S.F.S.R. Pop. 30,800.

Krasnoarmeisk, riv. port in the Stallinograd Region of the R.F.S.S.R. A new motor road runs from Stallingrad to K. The tn. specialises in shipbuilding, and in the manuf. of internal combustion engines and railway wagons. It was taken by the Gers. in their invasion of Russia in 1942, but on Feb. 12, 1943 was retaken by the Russians. Pop. 50,000.

Krasnodar (formerly **Ekaterrinodar**): 1. Cap. of the K. ter., R.S.F.S.R., on the Kuban R., with a large trade in flour and corn. It also produces hemp. Other industries include vegetable oil production, tanning, tobacco, distilling, starch, etc. Pop. 201,000. 2. Ter. of the R.S.F.S.R., near the Black Sea coast. Before the Second World War it formed part of the Crimean autonomous republic, now abolished. It is a sub-tropical area; hemp is produced, along with maize and tobacco. There are also rich oil-fields. Pop. 203,900.

Krasnovodsk, seaport and cap. of the Turkmen S.S.R., on the Transcaspiian Railway to Bokhara, opposite Baku, in

Balkan Bay, on the S. shores of the Caspian. Pop. 28,000.

Krasnoyarsk: 1. Ter. of the R.S.F.S.R., which extends from the Syansk Mts. to the shores of the Arctic Ocean. The chief centres of agriculture, industry, and pop. are situated in the 'oases' of fertile soil surrounded by mineral-bearing hills, in the vicinity of K. and Kansk. Kansk, a much smaller tn. than K., has chemical, glass, and leather factories and saw-mills. At Kansk and Minusinsk are state farms. Riv. steamers ply up the Yenisei as far as the tn. of K. Pop. 2,000,000. 2. Riv. port, and the starting-point of the Transcaspiian Railway, and now administrative centre of the K. ter. Originally a fortified trading post estab. after the Cossack penetration in the early seventeenth century, and a base in the struggle against the Buriats and Evenki, its importance increased with the expansion of industrial and agric. activity in the middle Yenisei basin to the N., and in the Minusinsk and Kuznetsk areas to the S.E. It has machine tool works and a paper-cellulose plant. It is a tn. of nearly 200,000 inhab. and its other activities are, as are those of Kansk, closely bound up with the utilisation of local iron and coal resources, gold, timber, and agric. products.

Krasny Selo, summer resort in the Leningrad Region of the R.S.F.S.R. on the Duderhof Hills, 15½ m. S.W. of Leningrad. Before the revolution it was a favourite summer resort of the Russian royal family, who had here a residence.

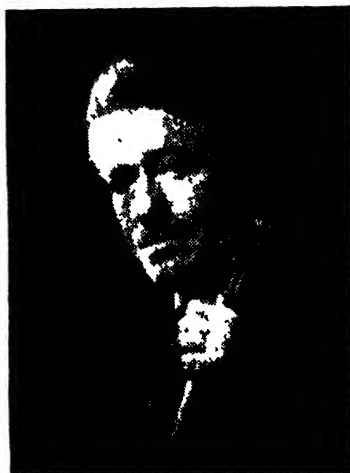
Krassin, Leonid Borisovich (1870-1926), Russian politician; b. in Kurgan, W. Siberia. He was expelled, 1891, from Petersburg technological institute, for political activity. After various wanderings he obtained an engineer's diploma, and in 1914 was made managing director of Petersburg branch of Siemens-Schuckert Company. After the 1917 revolution he became commissar for commerce and industry, and soon afterwards commissar for foreign trade. Arriving in London in 1920 he concluded a trade agreement with Lloyd George in the following year. From 1922 to 1925 he was ambas. successively to Berlin, Paris, and London.

Kraszewski, Jozef Ignacy (1812-87), Polish author, b. at Warsaw, educated at Wilna. A voluminous and versatile writer and author of numerous novels. His poems are also very popular, and include *Anafielas* (1840-43), an epic of the traditions of Lithuania, and *Satan and Women*. Among his works on travel and hist. are *Recollections of Odessa and History of Wilna*. He was editor of the *Athenaeum* at Wilna (1841-52), and in 1863 migrated to Dresden. Suffered imprisonment from 1884 to 1886 for high treason. See lives by S. Bohdanowicz, 1879, and A. Bar, 1923.

Kraus, Karl (1874-1936), Austrian poet and satirist. Founded the journal *Die Fackel* 1899. Pub. 7 vols. of essays, 6 of dramas, including *Die letzten Tage der Menschheit* (1918), 9 vols. of verse, 1 of epigrams, and 3 of aphorisms.

Kravinaki, Sergei Mikhailovich, see STEPNIAK.

Kreisler, Fritz (b. 1875), Austrian violinist, b. in Vienna. Studied music in Vienna under Joseph Hellmesberger, junior, and also in Paris under Delliibes and Massart. He has for many years given concerts in Europe and in the U.S.A.; has written an operetta, *Apfelbluten* (1919); and arranged numerous classical pieces for both violin and pianoforte. In 1935 he revealed the fact that most of the pieces which figured in the series 'Classical Manuscript' to which he attached the names of more or less unknown seventeenth-eighteenth-century composers were really of his own composition. He has also pub. a string



FRITZ KREISLER

F.N.A.

quartet and *Four Weeks in the Trenches: the War Story of a Violinist* (1918). Another operetta, *The Marriage Knot*, was performed in 1923, and a third operetta, *Sissy*, was performed in 1933.

Kremenchug, tn. in the Dnepropetrovsk Region of the Ukrainian S.S.R., on the l. b. of the Duleper. In the latter part of the eighteenth century it was the cap. of 'New Russia.' Its situation at the S. limit of navigation of the Duleper and on the road between Odessa and Moscow raised it early to wealth and influence. Its industries include the manuf. of agric. machinery, timber cutting, tobacco, etc. and it has a large trade in grain, salt, etc. Its industry was further developed by the construction of the great hydro-electric station between Dnepropetrovsk and K. The tn. suffered in the post-1918 disturbances, and again during the Second World War. It was the centre of great fighting in the Dnepropetrovsk-Melitopol drive of the Russian armies under Konev and Malinovsky in Oct. 1943, when Krivof Rog was the immediate objective. Pop. 89,500. See further under EASTERN FRONT

or RUSSO-GERMAN CAMPAIGNS IN THE SECOND WORLD WAR.

Kremer, Gerhard, *see* MERCHANT.

Kremlin, citadel within a Russian tn., especially that of Moscow, containing the old imperial palace and gov. buildings. The characteristic Russian K. was really a fortress, and was generally built on high ground dominating the surrounding neighbourhood, and comprising, as it did, cathedrals and churches crowned by golden cupolas, it was usually picturesque. The Moscow K. is probably the best preserved. Although rebuilt sev. times it still remains a true example of an auct. K. Despite its many lt. details, it is a typical illustration of the Russianising of foreign architectural forms. It once enclosed all there was of Moscow; it is now, however, a city within a city. From outside it has the appearance of a closely packed wonderland of cream-coloured palaces and golden-domed churches, all ranged above the castellated brick walls 20 to 30 yds. high. A broad avenue leads to the cathedral square, with fifteenth- and sixteenth-century churches on all sides. These constitute the story of Moscow—told in silver and gold, marble and malachite, crown jewels and gold-lace vestments—beginning with thirteenth-century icons and ending with the high gov. offices of to-day. In the Granovitaya Palace is a room with heavy gilt doorway and pictured ceiling, where Ivan the Terrible celebrated his victory at Kazan, and other smaller rooms where the early tsars fought to maintain their power against the wealthy boyars. Less ornate in style, but more spacious, is the Bolshoi Kremlevskii Dvoretz, the great Kremlin palace, built a hundred years ago for Nicholas I. One long high wall of pure white is dedicated to the order of St. George; another in pink and gold commemorates the order of Alexander Nevsky.

Křenek, Arnost (or Ernst) (b. 1800), Czech musical composer, b. in Vienna. Studied in Vienna and Berlin. Has composed symphonies, piano sonatas, etc., and achieved fame by a sensational little opera *Jonny spielt auf* ('Johnny strikes up'). His chamber-music compositions are unsystematic combinations of melodic parts resulting in atonality; but the above mentioned opera shows rhythmic and jazz influences. *Jonny spielt auf* was first performed in Leipzig in 1927, and was also performed in New York (1929). His other operas include *The Leap over the Shadow* (1925, symbolising man's efforts to overcome the difficulties of human existence); *The Life of Orestes* (1930); and *Charles V.* (1938). K. became director of the opera house at Kassel (1925). He has written numerous instrumental works, and many songs; also *Über neue Musik* (1937); *Musik Here and Now* (1939); and *Studies in Counterpoint* (1940).

Kreuger, Ivar (1880-1932), Swedish industrialist and financier, the 'Match King,' b. at Kalmar. After working in America and S. Africa, returned to Sweden to found the Swedish Match Trust, which obtained a virtual international monopoly of

match-making. His financial operations placed various European govts. under obligations to him; but he committed suicide after the disclosure of his intricate network of fraud and forgery, involving immense losses in America, France, and Sweden. *See* life by E. Sterner, 1930.

Kreutzer, Rodolphe (1766-1831), Ger.-Fr. virtuoso violinist and composer, b. at Versailles, to whom Beethoven dedicated his A major violin sonata (Opus 47), after a quarrel with Bridgetower, for whom it was originally written. This sonata, the most brilliant of the ten which Beethoven wrote for the violin, is always known as the K. sonata.

Kreuzer, small copper coin (100 K. = 1 gulden), formerly in use in Austria, so called from the cross (*Kreuz*) stamped upon it. It was first coined in the thirteenth century, when it was of silver. Ks. were also used in S. Germany before the founding of the empire (60 K. = 1 gulden).

Kreuznach, Kreuznach, or Kreutznach, tn. of Rhineland, Germany, on the H. Nahe, about 8 m. S. of Bingen. It is picturesquely situated in a fertile valley at the foot of a hill upon whose summit is a castle. The riv., which divides the tn. into two parts, is spanned by a fine stone bridge. There are noted mineral springs and salt works, also manufs. of woollen goods, snuff, and leather. Pop. 27,000.

Kriegspiel (war game) is a scientific game of Ger. origin, as its name denotes, in which the movements, etc., of war are imitated on a small scale. Marshal Keith in the eighteenth century invented a game which he called *Kriegs-schachspiel* (war chess), but the game in its modern form was invented in 1824 by the Prussian officer von Reisswitz. It was quickly adopted as a method of instruction in the Prussian Army, and thence spread to the armies of all countries. The materials for the game are blocks cut and moulded to scale to represent different units of an army, and coloured in two different colours, some pairs of dividers, and measures of the same scale, and maps. If a small number of troops is engaged large-scale maps are essential, more so than if large bodies are employed. Printed regulations are not of much service in K., and the decision of a competent umpire is more valuable. Three maps should be used, one for each of the contending armies, and one for the umpire. The umpire's map shows the position of both the opposing forces, but each of the other maps reveals only the troops of one side, and as many of the enemy as the umpire decides would be visible in actual warfare. A general idea of the military position is first given to each commander; this is followed by a 'special idea,' which gives details as to the disposition of troops, the character of the country, etc. Each player then frames his orders, to which he is held. The time for a move is two minutes, and the troops can only be moved for such a distance as would have been traversed in actual fact in such a time. Smaller units yield to larger ones when attacked by them, and when artillery is firing on infantry, the loss of the latter is

determined by a table of odds in conjunction with a throw of the dice. Repulsed troops cannot come into action for five moves (ten minutes), and defeated troops for ten moves, whilst totally defeated troops are removed from the map. See *The Tactical War Game* (1881), trans. by MacDonald.

Kriemhild, heroine of the second part of the *Nibelungenlied*, sister of Gunther, king of the Burgundians, is wooed by Siegfried, conqueror of Brunhild and possessor of the Nibelungen hoard. Brunhild's jealousy leads Hagen, Gunther's vassal, to murder Siegfried while hunting, and K. then changes from a gentle wife into a woman thirsting for vengeance. She marries Etzel, or Attila, the Hun, invites the Burgundian chiefs to visit her, and procures their destruction.

Krilenko, Nikolai (b. 1885), Russian revolutionary lawyer and soldier. b. at Bielov, in the Smolensk gov., and educated at the Lublin Lycée. He played an active part in the elections to the first and second Dumas, and was tried in 1906 for sedition, but acquitted. After this he returned to Lublin, studied law, and wrote a book called *The Research of Orthodoxy*. On the outbreak of the revolution he was made president of the committee of the Eleventh Army, and was subsequently delegate to the first congress of Soviets. The Bolshevik coup of Nov. 1917 forestalled his intended arrest, and in a few weeks he became generalissimo of the forces, having destroyed the morale of the old Russian army by issuing the famous 'fraternisation order.' Later became public prosecutor, in which capacity he was distinguished by his relentlessness. Appointed commissar of justice in 1931, he was superseded by Ovsyenko in 1937.

Krimmitschau, or Crimmitschau, tn. in Saxony, Germany, 8 m. from Zwickau. Manufs. vicuña wool, woollen yarn and cloth, buckskin, iron ware, and machinery. Pop. 27,900.

Kris, Creese, or Crease, Malay knife or dagger, often made with a wavy blade, though this may be straight and narrow. The hilt, of ivory or wood, and the scabbard, may be heavily ornamented.

Krishna, Hindu deity, the eighth incarnation of Vishnu. His worship has been much in vogue in modern times. He was the son of Vasudeva and Devaki, and his bp. is given as Mathura, between Delhi and Agra. He is represented as being brave and fearless, but crafty, while in the popular legends concerning him and in his worship as Vallabhacharya, one sees the most depraved side of modern Hinduism. He figures in the *Haricansa-pairan* and the *Bhagavata-puranas*, two additions to the great Indian epic, the *Mahabharata*. Early ideas of K. are mingled with myths of lightning and fire, heaven and the sun.

Krishna, riv. S. India, see KISTNA.

Krishnagar, tn. in Nadia dist., W. Bengal, India, on the R. Jalangi. Coloured clay figures are manufactured. It has a Church Missionary College, and is the seat of a Rom. Catholic bishop. Pop. 32,000.

Krishnamurti (b. 1897), Indian mystic,

b. at Madanapalle, Madras, son of Jidda Naraniah, was an employee in the revenue dept. of the Brit. Gov. and a Theosophist. He was called K. after a custom in S. India that the eighth child, if a boy, should be named in honour of Krishna, a divine incarnation, who was an eighth child. In 1909, K. was especially noticed by Dr. Annie Besant and her colleague, Mr. C. W. Leadbeater. They recognised in K. latent faculties which they believed would, when developed, make of him a great spiritual teacher. The two Theosophical leaders offered to give K. the education necessary for his mission, and his father, who was a poor man, gladly accepted the offer, and gave over to Dr. Annie Besant the care of K. In 1911 Dr. Besant took the boys with her to Europe, and announced publicly the nature of the spiritual greatness latent in K. Thousands of Theosophists all over the world accepted her proclamation, and banded themselves together into an organisation called 'The Order of the Star in the East,' to prepare the way for K. in the work which he was expected to do when he reached manhood. In 1925 Nityananda, younger brother of K., died. This was to K. a deep sorrow, yet it proved a turning-point in his spiritual life. He has written: 'When my brother died, the experience it brought me was great—not only the sorrow—sorrow is momentary and passes away, but the joy of experience remains. If you understand life rightly, then death becomes an experience out of which you can build your house of perfection, your house of delight.' From that moment K. came before the world of his own accord as a spiritual teacher, who desired to help all men to attain the supreme and lasting happiness which he had found within himself. Later he developed a deeply interesting and original philosophy of life, in close harmony with modern thought and with conditions in the twentieth century. K. held that an organisation for spiritual purposes inevitably becomes a barrier in the individual search for truth, and creates distinctions which lead to spiritual domination and exclusiveness. As a result of this view, he dissolved in 1929 his own order of the Star, which in the course of years had grown into an international movement. K. does not claim to be the world-teacher in the sense in which this term is used by the Theosophists, nor has he any wish to found a religion. He has repeatedly declared that he had no disciples, and desired none. In particular he repudiated all authority in spiritual matters and the division of spiritual teaching into esoteric grades reserved for the few. See L. Heber, *Krishnamurti, the Man and his Message*, 1931, and *Krishnamurti and the World Crisis*, 1935. **Kristiania**, see OSLO.

Kristiansand, seaport on the S. coast of Norway. Situated on a fjord of the Skagerrack, 175 m. S.W. of Oslo by sea, its scenery is still very picturesque, although the wooden houses have, since the fire of 1892, been replaced by brick. It is connected by the Setesdal Railway with Byglandsfjord (48 m. away),

and is served by all the steamers which run between Oslo and Hamburg, Hull, Grangemouth, and London. Its industrial importance rests on the salmon and mackerel fisheries rather than on the wood-pulp factories and sawmills. Pop. 21,000.

Kristianstad, the fortified cap. of the S. prov. of K., Sweden. It is situated near the Baltic (14 m. away), on the R. Helge, 265 m. S.W. of Stockholm. It is noted for its fine church, and manufs. linen and woollen goods besides gloves. Pop. 23,000; prov. 254,900.

Kristiansund, seaport tn. of Norway, 85 m. W.S.W. of Trondhjem, on four is. in the Atlantic, which enclose its fine natural harbour, which has in recent years been extended. It was founded in 1734 by Christian VI. of Denmark. It exports large quantities of dried cod and salt fish, also timber, tar, and wood pulp. Pop. 13,000.

Kristinehamn, see *CHRISTINEHAMN*.

Kritihia, Battles for, fought on April 28, May 6-8, June 4, 1915. See *GALLIPOLI CAMPAIGN*.

Krivoi Rog, tn. in the Dnepropetrovsk Region of the Ukrainian S.S.R., and 100 m. from Kherson, on the R. T. Zuletz. It is the chief iron-mining settlement of the Volhynia-Podolsk Upland across the Dnieper. The K. R. deposits contain about 1,000,000,000 tons of ore (said to be over 60 per cent metallic content). There are smelting and metallurgical works at K. R. The Gers. made K. R. one of a series of 'bolt positions' at key points in the great battles of the 'Dnieper Bend' (Oct. 1913-Feb. 1914) and clung tenaciously to their positions round K. R. and Nikolop, even when the Russians had advanced far westward of Kiev and thereby greatly lengthened the Ger. right flank. When the forces of Konev and Malinovsky joined hands it seemed that the centres of K. R. and Nikolop must fall, for the Russians were within 6 m. of K. R. (Oct. 25); but the strength of the Ger. defence around Melitopol prevented Tolbukhin from closing the left wing of the Russian pincers, and, by the time the Russians had pierced the Melitopol defences, a much reinforced barrier confronted them before Nikolop, while the Gers. had stabilised their position at K. R. But this stiffened Ger. resistance at K. R. and Nikolop only brought the Russian advance within the Dnieper Bend to a temporary halt and on Nov. 4 the Russians launched a new offensive against Kiev, and, having taken this city, they delivered a new major thrust above K. R. But though they made deep armoured penetrations their progress towards K. R. itself was slow and K. R. held out for some time. On Feb. 8 (1941) Nikolop was captured by the Russians and a deep salient driven beyond Apostolovo to outflank K. R. Slowly but surely the Russian 'pincers' now closed on the important base; by Feb. 21 they had broken into the suburbs and after a day's desperate street fighting the Ger. troops were driven out of the tn. (Feb. 22). (See further under *EASTERN FRONT*, or *RUSSO-*

GERMAN CAMPAIGNS, IN SECOND WORLD WAR). Pop. 197,600.

Krk, see *VEGLIA*.

Krnov (Ger. *Jägerndorf*), tn. of Austrian Silesia, near the frontier, 14 m. N.W. of Troppau, on the R. Oppa. It has a Minorite monastery, a church (Burgberg), and a castle of the Liechtenstein princes. It is noted for woollen industries, and also manufs. cloth, organs, and machinery. Pop. 21,129.

Krolevets, tn. in the Ukrainian S.S.R., 87 m. E. of Chernigov. It has a noted cattle fair. Pop. 12,000.

Królewska Huta (Ger. *Königshütte*), tn. in Polish Silesia, 6 m. S.E. of Bouthen. It has large iron, steel, and zinc works; glass and bricks are also produced. In the Second World War K. was captured by the Russians early in 1945. Ceded to Poland after the war. Pop. 115,000.

Krone, unit of the monetary systems of Norway, Denmark, and Sweden (in the last, *Krona*). At parity 18-159 Kroner equal the pound sterling, and 1 K. is equivalent to 26-80 cents.

Kronenberg, manufacturing tn. in the Rhineland of Germany, 6 m. from Elberfeld. Pop. 16,000.

Kronos, see *CRONOS*.

Kronstadt, Father John of (1829-1908), Russian priest, whose real name was Joann Sergeiev. He became priest of the Eng. cathedral church of K., after having studied at the theological academy of St. Petersburg, where he took his divinity degree in 1855. He soon obtained an extraordinary influence over people, and the enthusiasm aroused by his sermons led to miracles of healing being attributed to him. People of every class flocked to him with their bodily and spiritual troubles, and with the money thus acquired he founded numerous charitable institutions. He was violently opposed to the teaching of Tolstoy. His publs. include *Ma vie dans la Christ; Sermons sur le Dieu Crateur; Sermons et instructions; Quelques mots de réponse aux fausses doctrines du comte Tolstoi*, etc.

Kronstadt, or **Cronstadt**, tn. and naval fortress in the Leningrad Region of the U.S.S.R. on the Is. Kotlin, near the head of the gulf of Finland, and 18 m. W. of Leningrad. Since the maritime canal was constructed which unites K. and that city, the quays of the latter can be reached by large vessels. The harbour is ice-bound during the winter. The public buildings of K. include a cathedral, a marine hospital, schools, etc., in addition to the naval works, arsenals, cannon foundries, etc., which carry on the chief industry of the place. Founded by Peter I. in 1710, K. has always been the chief Russian naval arsenal in the Baltic. The tn. and fortress sustained damage during the Ger. siege of Leningrad in the Second World War; but the Russians clung tenaciously to an isolated strip of coast around Oranienbaum which covered the naval base of K., where the Russian Baltic fleet had, before the raising of the siege of Leningrad, been immobilised for more than two years. Pop. 70,000.

Kronstadt, Hungary, see *BRASSÓ*.

Kroonstad, dist. and tn. of Orange Free State S. Africa, 110 m S.W. of Johannesburg. The dist. is separated from the Transvaal by the Vaal R. It is a maize growing and dairy farming area, and diamonds are mined. The tn. is a railway junction and from March to May 1900, was the cap. of Orange Free State. It is the second largest tn. in the state. With the discovery of the high values in the Free State goldfields in 1946 K. being only 30 m from Odendaalsrust at once attracted national interest. Probably no tn. in S. Africa to day is more assured of a promising future than is K. Pop. 16,000 (Europeans 1000).

Kropotkin, Prince Peter Alexievich (1842-1921) Russian geographer, nihilist



PRINCE KROPOTKIN

and author; b. Dec. 9 at Moscow of a noble family. In 1857 he entered the corps of pages at St. Petersburg and in 1862 went with a Siberian Cossack regiment to Siberia where he carried out two geographical surveys. He returned to St. Petersburg in 1867, and studied at the univ. for four years whilst secretary to the Geographical Society. In 1871 he explored the glacial system of Finland and Sweden, and in 1871, by a map and paper which he pub., proved that the main structural line of Asia ran from S.W. to N.E. and not N. to S. or L. to W. as had been supposed. In 1872 he joined the International Working Men's Association at Geneva, he definitely adopted anarchism a little later. He was arrested in 1874 for spreading nihilistic doctrines on his return home; but escaped in 1876 and came to England. Later he went to Switzerland, but was expelled therefrom in 1881 and came to England for a year. In 1883 he was arrested at Lyons by the Fr. Gov. and sentenced to five years' imprisonment, but, as a result of repeated agitation in the Fr. Chamber, he was released in 1886—

when he returned to England and settled down. In June 1917 he returned to Russia and little was heard from him afterwards, but he is known to have condemned the dictatorship. Among his numerous works may be mentioned *Paroles d'un révolté* (1881), *L'anarchie sa philosophie, son idéal* (1896), *Memoirs of a Revolutionary* (1900), *Modern Science and Anarchism* (1903), *Geography of Asia* (1904), and *Russian Literature* (1905). See A. Lorulot, *Les thèses anarchistes* 1913 and R. N. Baldwin (editor) *Kropotkin's Revolutionary Pamphlets* 1927.

Krossen, or **Crossen**, tn. of Brandenburg (Germany) at the confluence of the Oder and Bober 32 m S.E. of Frankfurt on Oder. There is an old castle. It has manufactures of hosiery and woollen cloth. Pop. 7,000.

Kroton, Italy. See CROTONI.

Krug, Wilhelm Traugott (1770-1842) Ger. philosopher and writer; b. at Radis, Prussia, the originator of the system called transcendental synthesis which endeavours to combine Idealism and Realism. He studied at Wittenberg and was later appointed assistant prof. of philosophy in consequence of his *Lectures on the Perfectibility of Revealed Religion*. In 1801 he was extraordinary prof. of philosophy at Frankfurt on the Oder, ordinary prof. of logic and metaphysics at Königsberg (1804) and ordinary prof. of philosophy at Leipzig (1809). His prin. writings are *System der theoretischen Philosophie* (1806-10, Eng. trans. *A System of Theoretical Philosophy*), *Geschichte der Philosophie aller Zeit* (1815, Eng. trans. *History of the Philosophy of Ancient Times*), *System der praktischen Philosophie* (1817-19, Eng. trans. *System of Practical Philosophy*) and his autobiography *Meine Lebensweise* (2nd ed., 1810).

Kruger, Stephanus Johannes Paulus (182-1904) four times president of the Transvaal republic; was b. at Colshuis, in Cape of Good Hope. The founder of the family was Jacob K., who in 1713 was sent to Cape Colony by the Dutch India Company in the family on both sides. His uncles names are found accompanying his parents in the great trek from Cape Colony to the country N. of the Orange between 1835 and 1840. His education was primitive and almost his only book was the Bible. The Dutch Reformed Church of the Transvaal was divided into three sects and to the narrowest and most bigoted of these the Doppiet sect the Kruger family belonged. All through his life he considered himself to be under special divine guidance and protection and to this he owed much of his influence over his followers. At the age of seventeen he was an assistant field cornet, at twenty a field cornet, and at twenty seven took command of an expedition against Sechele the Bechuana chief. In 1852 the Transvaal was declared independent by the Sand River Convention, and from that time was in a very unsettled condition; K. entered freely into all the disputes of the factions. In 1856-57 he joined Pretorius in an abortive attempt

to compel a federation between the Transvaal and the Orange Free State. In 1864 Pretorius was made president of the Transvaal, and K. commander-general of the forces. In 1870 the public dissatisfaction over the Keate award in a boundary dispute caused the downfall of Pretorius's gov. K. acted with such bitterness and hostility to the new administration, under T. F. Burgers, that in 1877 the Transvaal was annexed by Great Britain. K. accepted office under the Brit. Gov., but was dismissed in 1878. In 1880 the Boer rebellion occurred, and K. with Gen. Joubert and Pretorius, negotiated the terms of peace. In 1883 he was elected president, and in the following year obtained the London Convention. In 1886 he secured re-election as president. During all his terms of power he was bitterly hostile to Uitlanders, and by his short-sighted policy undoubtedly brought about the Boer war. In 1893 he was very unpopular, and there is no reasonable doubt that he falsified the election figures which caused him to be re-elected by a majority of 700 over Gen. Joubert. In 1899 after a fruitless convention with Sir A. Milner, war was declared. K. for attempting in vain to influence the European powers on his behalf, fled to Europe and resided at Utrecht. He d. at Chaux, on the shore of Lake Geneva, whither he had gone for his health, and was buried at Pretoria. See J. F. van Oordt, *P. Kruger en de opkomsel der Zuid-Afrikaansche Republiek*, 1898; F. R. Statham, *Paul Kruger and his Times*, 1898; *The Memoirs of Paul Kruger*, by himself, 1902; and M. Juta, *The Peace of the O.*, 1939.

Krugersdorp, tn. of the Transvaal prov., S. Africa, 22 m. W.N.W. of Johannesburg, between the latter tn. and the Blaauwbank goldfields. Founded in 1847, and named after President Kruger, K. is the chief tn. of the W. Rand, owing its prosperity largely to the goldfields. Manganese deposits are found, in addition to the gold-mines in the municipal area, and there are tanning, engineering, and paint industries. There is an ann. national pilgrimage to the Paardekraal monument, dedicated to the victory of the Boers over Dingman in 1836. At Doornkop, 12 m. away, Dr. Jameson surrendered to Cronje in 1896, and in 1900 there was fighting there during Lord Roberts's advance to Johannesburg. At Sterkfontein, 8 m. away, are limestone caves. There is a public pleasure-ground at Coronation Park.

Kruishoutem, com. and vil. of Belgium, E. Flanders prov., arron. of Audenarde, 11 m. from Ghent. Pop. 4700.

Krumen, see *ČESKÝ KRUMLOV*.

Krummacker, Friedrich Wilhelm (1796-1868), Ger. preacher and writer on religious subjects, b. at Mörs on the Rhine, was the son of Friedrich Adolf K., the author of *Die Parabeln*. He was preacher in the Reformed Church at Frankfurt, Ruhrort, Barmen, Elberfeld, and Berlin, and in 1853 was made court chaplain at Potsdam. Among his works are *Salomo und Salomith* (trans. 1838); *Elisa der Tishbiter*

(trans. 1838); *Elisha* (1835); *Das Passionsbuch* (1870); *David* (1867). He also wrote an autobiography (1869, trans. 1871).

Krupg Krac, see *AYUTHIA*.

Krupp, Alfred (1812-87), founder of the celebrated iron and steel works at Essen in Germany, b. at that tn., and succeeded his father in possession of a small iron forge in 1848. His first efforts were in the direction of producing axles and tyres for railways. K. adopted the steam-hammer and the Bessemer process of manufacturing steel in 1857, and turned his attention to the production of large armaments. He had already in 1847 produced his first cannon, a three-pounder cast-steel muzzle-loader. Studying especially the production of cast-steel blocks of great weight, he at length (1880) succeeded in forging a breech-loading gun of 100 tons, the largest of its kind at that date. He was also a pioneer in producing specially hardened armour for warships. Though at first ignored by the Ger. Gov., he at last received due appreciation, and was frequently visited by the first Emperor William. With the growth of his business he was able to acquire large mines and collieries, and the K. works at Essen, Kiel, Annen, and Gussow were employing some 70,000 persons in 1913. He was succeeded by his only son, *Friedrich Alfred K.* (1854-1902), by whom was constructed an immense 135-ton gun for the defence of Kronstadt, and who was in turn succeeded by his daughter, *Frau Bertha*, married to Baron K. von Bohlen und Halbach. (See W. Berthow, *Friedrich Krupp*, 1915, and *Alfred Krupp*, 1926.)

At the outbreak of the Franco-Ger. war in 1870 the K. armament works at Essen covered 450 ac. of ground, and employed more than 8000 men. Around the factories were grouped 'K. colonies' of model vils, housing the workers, and complete with flour mills and bakeries, provision stores, and schools. The works were then producing 9-in. guns at the rate of one a day. K. armaments were then establishing the new Germany as the foremost military power in the world. By 1914 the K. works covered more than 2000 ac., and gave employment to 80,000 workers, while exporting artillery of all sizes to almost every gov. in Europe. During the First World War Ks. had practically the monopoly of armament manuf. in Germany, and so acquired considerable credit from the making of long-range guns for the artillery (see also *BERTHA*, *HUG*). At the close of the war the firm was employing well over 150,000 persons. Between the wars they turned their attention to the manuf. of agric. machinery, steam engines, etc., and extended their influence by acquiring the control of many Ger. iron and steel companies. After the advent of the Nazi regime and the rearmament of Germany Ks. reverted to armament production, and did so on a scale unsurpassed elsewhere in the world. Their employees in 1938 numbered 123,000. The K. works at Essen were subjected on March 13, 1945, to the heaviest air attack ever delivered up to that date, by the R.A.F. bomber

command. There had, however, been a very heavy raid on March 5, when nearly 1000 tons were dropped. See *further* under AIR RAIDS; ESSEN; RUHR, BATTLE OF THE; WESTERN FRONT IN SECOND WORLD WAR. See B. Menn. *Krupp, Deutschlands Kanonenkonige*, 1937.

Kruisevac, or **Krushavatz**, prov. and tn. of Serbia, Yugoslavia, 37 m. from Kruisevac. The cap. of the Serbian tsars till 1389, it was held by the Turks from 1128 to 1833. It suffered severely in the First World War. Pop. (prov.) 155,000; (tn.) 7000.

Krylov, see *NOVO-GORGIJEVSK*.

Krypton, symbol Kr; atomic number 36; atomic weight 83.7. A gas-chemical element found in the atmosphere. Isolated in 1898 by Ramsay and Travers from the residues left after distilling off the higher boiling-point constituents of liquid air. Together with xenon, neon, helium, and argon, it constitutes the rare gases. K. is present in air to the extent of about one part in 20,000,000. Its molecule consists of one atom only. K. can be detected spectroscopically. It can also be converted into a liquid and then into a solid, by cooling in liquid air. K. has a density of 3.71 gm. per litre, a boiling-point of $-151.7^{\circ}\text{C}.$ and a melting-point of $-169^{\circ}\text{C}.$

Kuala Lumpur, cap. of the Brit. unfederated Malay state of Selangor, nearly opposite Port Swettenham on the W. coast of the Malay Peninsula and the heart of the Malayan rubber and tin-mining industries. With a good water supply and lit by electricity, it was remarkable before the Second World War for its easy, opulent way of life, due to the prosperity of the rubber and tin companies. The native quarters are within the city: the residential areas, where Brit. officials and business men live, in the outskirts. In these areas are spacious houses, with marvellous gardens, where rannas and hibiscus shrubs bloom in profusion. When K. L. fell to the Jap. invaders in Jan. 1942, the city presented a tragic spectacle. Columns of black smoke rolled upwards as the stocks of rubber were destroyed by the Brit. authorities, and estates, which had involved years of labour and expenditure, were ruined. Occasional detonations marked the destruction of the machinery in the tin mines and the blowing up of numerous bridges round the city. Little, however, had been destroyed in the residency and administration buildings when the Brit. evacuated the city. Pop. 128,000 (mostly Chinese and Malays).

Kuala Selangor, seaport tn. at the mouth of the Selangor (strait of Malacca), on W. coast of the Malay Peninsula. It was once an important Dutch stronghold. Exports include timber, rubber, ivory, tin, rattans, and hides, and it has good fisheries. During the Second World War it was occupied by the Jap. from Jan. 1942 until their surrender in Sept. 1945. Pop. 40,000.

Kuango, see *CONGO*.

Kuanza, see *COANZA*.

Kuba, tn. of Transcaucasia, in the Azerbaijan S.S.R. It is noted for the

culture of silkworms, and the manuf. of silk goods and carpets. Pop. 20,000.

Kuban, name of both a dist. and a riv. of Russia in the Krasnodar Region of the R.S.F.S.R. The area includes the riv. basin, the N. slope of the Caucasus range as far to the E. as Elbruz, and the coast of the sea of Azov. The crops grown include wheat, tobacco, apples, pears, vines, and kendir (*Ipomoea renelumi*), a fibre-producing plant. Horses are reared by the inhab. of the plains. The minerals include coal, iron ore, salt, soda, and petroleum. The R. Kuban, the anct. Hypanis, or Vardan, rises at a height of 14,000 ft. in Mt. Elbruz in the Caucasus. Its main stream enters the Black Sea in K. Bay after a course of almost 500 m., whilst an arm enters the sea of Azov. Sandbanks encumber navigation, which is carried on in flat-bottomed boats.

Ger. troops early in Aug. 1942 reached the K. R. on a 62-m. front, and swept across the riv. to cut the main Rostov-Baku railway farther S. A few weeks later the Mafkop oil area was reached by swift thrusts from the K. bend and N. of the riv. a considerable advance was made in spite of protracted Russian resistance in the Kropotkin area. But this was the limit of the Ger. advance in the Caucasus. By Jan. 19, 1943, the Russians had turned and recrossed the K. R. while the Gers. were hastening to escape by the Rostov gateway on which sev. Russian columns were converging. On Jan. 22, 1943, the Russians took Salsk, and advancing down the K. valley captured Armavir. In Feb., despite a flooded countryside and mud-clogged roads, the Russians delivered determined attacks N. and S. of the K., and took the tns. of Slavyansk and Anzassk. In mid April they resumed their attacks, after the roads had dried, especially on the route between Novorossisk and Krymskaya, and along the N. bank of the K., meeting with fierce resistance. Fighting in the K. area ended in Oct. 1943, when the remnants of the Ger. forces left or were mopped up.

See also *Cossacks*; *EASTERN FRONT OF RUSSO-GERMAN CAMPAIGNS IN SECOND WORLD WAR*.

Kubango, or **Okavango**, see *CUBANGO*.

Kubelik, Jan. (1880-1940), Czech violinist, b. at Mielie, near Prague, the son of a Bohemian gardener, who was an enthusiastic musician. He changed his name to Polgar in 1912. He was sent to study under Prof. Ševčík in Prague in 1888, and in the ensuing fifteen years played all over the world, meeting everywhere with phenomenal success. Made his first appearance in England in 1900 at a Richter concert in St. James's Hall. Technically perfect, his playing, however, was not always above criticism as regards interpretation; he was particularly renowned for his performance of Bach's *Chaconne*, and of Paganini. He made a world's tour in 1914. His compositions included six violin concertos.

Kublai Khan, or **Kubla Khan** (1216-1291), grandson of Jenghiz Khan, was the founder of the Mongol dynasty of China. Whilst his brother Mangu was on the

throne, K. K. began the conquest of N. China. On the death of Mangi in 1259 he became the 'Great Khan,' and in the course of time added S. China to his empire, also Tartary, Tibet, Burma, and other countries. His empire was thus of great extent, but many of his foreign expeditions, particularly those against Japan, ended in failure. K. K. was a wise and just ruler; he encouraged trade and agriculture, and estab. Buddhism as the state religion. He delighted in pomp and display, as we see in Marco Polo's *Travels*. Chinghim, the son whom he had chosen to succeed him, predeceased him, dying in 1284, and Chinghim's son Timur was his successor.



Kuchaman, tn. and railway junction of Rajputana, India, 65 m. W.N.W. of Jaipur. Pop. 13,000.

Kuchan, or **Kabushan**, tn. of Khorasan, Persia, connected by road with Meshed. It was destroyed by earthquakes in 1893 and 1895. Pop. 12,000.

Kuch Behar, see COCH BEHAR.

Kuchean Language, see under INDO-EUROPEAN LANGUAGES.

Kuching, see SARAWAK.

Kudalur, see CHIDAMBARAM.

Kudrun, see GUDRUN.

Kudu, or **Koodoo**, *Streptoceros kudu*, one of the largest African antelopes; a handsome beast with reddish-brown coat marked with white stripes. The male has long spiral horns.

Kudur-Lagamar, see CHIDORLAMI R.

Kueishuacheng (Kweihsia), or **Kukuk-hoto**, tn. in Shansi, China, 250 m. N.E. of Peking. It consists of two parts, an important trading and commercial centre, and the military portion. Formerly the residence of the Living Buddha of Mongolia, it is still a centre of Lamaism. There are Protestant and Catholic missions.

Kuen-lun, see KUN LUN.

Kufa, Iraqi vil., 90 m. S. of Bagdad, and the place of residence of the caliphs before they settled in Bagdad. Also a script used in the earlier copies of the Koran.

Kufferath, **Maurice** (1852-1919), Belgian musicologist, b. at Brussels. Son of Hubert Ferdinand K., composer. Studied law after taking instruction in the cello

under François. Then became a journalist, and also wrote for the *Guide Musical*, and later managed it. After the First World War he resumed the management of the Théâtre de la Monnaie, which, under his direction, attained its zenith. Learned to a degree and a stylist *par excellence*, he made trans. of *Fidelio*, *The Magic Flute*, and other operas. He successfully inaugurated Wagnerian cycles. His name will always be associated with the Wagnerian movement, his exegetic works pub. under the general title, *Le Théâtre de H. W. de Tannhäuser à Parsifal* (6 vols., 1891-98), having considerable influence.

Kufra, or **Kufara**, oases in the centre of the Libyan Desert, N. Africa, the centre of the Senussi, a strong Muslim sect. It is connected by desert tracks with Jarabub, Khargah, and Siwa, and can be reached from Sidi Barrani. In the Second World War K. was captured from the It. by Gen. Leclerc's Free Fr. motorized forces from Chad ter., on March 1, 1941. See Rosita Forbes, *The Secret of the Sahara*; *Kufra*, 1921.

Kuhl, see KOHL.

Kuhn, **Franz Felix Adalbert** (1812-81), Ger. mythologist, b. at Königsberg, Brandenburg; from 1841 teacher, and from 1870 principal of the gymnasium of Cologne. He pub. many books on comparative mythology, and ranks as one of the founders of that branch of knowledge. His prin. works are *Markische Sagen und Marchen* (1842); *Zur ältesten Geschichte der indogermanischen Völker* (2nd ed. 1850); *Sagen, Gebräuche, und Marchen aus Westfalen* (1859); *Über Entwicklungstufen der Mythenbildung* (1874); and *Die Herabkunft des Feuers und des Göttertranks* (2nd ed. 1886).

Kuibushev, formerly **Samara**: 1. Region of the R.S.F.S.R., bounded on the W. by the Voronezh Region, E. by Chkalov Region, and S. by Saratov Region and the Kazakh S.S.R. It is bisected by the K. R., while the Volga flows along its W. frontier. Mountainous in the N.W., there are fertile valleys in the S., agriculture being the chief industry. Area 58,320 sq. m. Pop. 2,544,500. 2. Cap. of the K. Region, on the R. Volga, 95 m. S.S.E. of Simbirsk. It was a bishop's (Orthodox) see, with three cathedrals, until the church was disestablished in 1918 by the Soviet Gov. A univ. was estab. in 1919, and a new communist univ. in 1929. Lying, as it does, on the great bend of the Volga, at the junction with the K. R., it is an important point for the transshipment of grain from riv. to railway, and contains large grain elevators and flour mills. Food products, transport machinery, and building materials, especially cement—the production of which at K. is of national importance—and asphalt are among its chief industries. Others include iron-founding, tanning, brewing bricks, etc. The new hydro-electric stations with a capacity of 3,400,000 kilowatts will add to the importance of K. when they are completed. In the First World War Gen. Maude, advancing up the Tigris, took Samara on April 23, 1917, and thus gained control of the Bagdad-Samara railway. The

Russian Gov. took up its quarters here late in 1941, when the Ger. armies were threatening Moscow. Pop. (1930) 175,700; (1939) 390,000.

Kuiper, Abraham, see KUYPER.

Kuilenborg, or Culenborg, tn. of Holland in Guelderland, on the R. Lek. Its chief industry is the manuf. of ribbon. Pop. 9260.

Kutahia, see KUTAYIAH.

Kuka, Kouka, or Kukawa, tn. of Bornu, incorporated in the Brit. protectorate of Nigeria, probably so called from the monkey-bread tree or *kuka*, which is plentiful in its vicinity. It is now the headquarters of the Brit. administration in Bornu, but was formerly the residence of the native sovereign (*shehu*), who now holds his court at Mardugari (since 1908). The modern tn. was founded about 1805 and rebuilt in 1903. Pop. (est.) 60,000.

Ku-Klux-Klan. There were really two Amer. organisations of this name, one originating in the terrible reconstruction days in the S. after the Civil war, the other being started after the First World War and reaching the height of its power about 1928. The original K.-K.-K. was started in Tennessee in 1865 by a number of young men, who did it as much for amusement as anything else. They held secret meetings, had elaborate ceremonials, and wore white cloaks with hooded caps which hid all but their eyes. It was found that this uniform frightened the superstitious negroes, and the Southerners at once recognised that they had a weapon in their hands. The K.-K.-K. was organised all over the S. under the leadership of the Tennessee cavalryman, Gen. N. B. Forrest. The K.-K.-K. rode by night, striking terror into the ex-slaves and into the carpet-bagger politicians from the N. But the Federal Congress enacted laws against it and by 1871 it was practically non-existent. The second K.-K.-K. was founded by W. J. Simmons in 1915 at a meeting near Atlanta, Georgia. Simmons, who had been a preacher and also an organiser for fraternal orders, knew how to organise an extensive 'selling' campaign. His order was chartered in Georgia, and thence began to spread rapidly, first all over the S. and then in the N. states, particularly in Indiana. Like the old K.-K.-K. it opposed Negroes. Also like the old Know-nothings and A.P.A.s (Amer. Protective Association) it opposed naturalised citizens and Rom. Catholics, adding to this a bias against the Jews. It stood for white native Protestant domination in politics and business. It became a power in politics, particularly influencing the elections of 1922, 1924, and 1926. But some of its members soon began to commit lawless acts. The braver part of the Amer. press began a vigorous onslaught on the organisation. Internecine quarrels added to the troubles of the K.-K.-K. and in 1923-24 these led to the deposition of Simmons from the leadership, with a solatium of \$20,000, after which the K.-K.-K. soon became quiescent. Owing to a resurgence of terrorism against Negroes in 1949 the Alabama House of Representatives banned the wearing of masks.

Kukri, knife used in Nepal, particularly as a weapon by Gurkha troops. The blade is curved, sloping from the outer to the inner edge; it weighs about 4 lb. and is about 2 ft. in length.

Kukukhoto, see KUENHACHÉNG.

Kula, com. of Hungary in the co. of Bacs-Bodrok, 34 m. from Szabadka or Subotica (Maria Theresiopol). Pop. 9000.

Kulak, Russian word meaning a list. Before the Russian revolution it was used for stingy merchants or for peasants who gained a hold over their fellows and were, probably, vil. usurers. They also acquired power over others by hiring labour, or leasing out machinery or land. In the revolutionary period the word was widely used as a word of abuse for any one who used machinery or employed hired labour, or, in other words, for the filthy, who were the natural leaders of the vil. 'Actually,' says Maurice Hindus (g.v.), 'a kulak was a successful farmer as success is measured in Russia. He was one of the so-called well-to-do though by no stretch of the imagination would he have been called that in America, Germany, or England, or any other western land.' He became the enemy and victim of the Bolsheviks in the process of collectivising agriculture, which process he did not survive. State farms had been tried in the period of militant communism prior to 1928 but they had collapsed or reverted to those for whom they were not intended, namely the more prosperous peasants, and even state authorities in the vils. had themselves fallen under peasant influence. During the five-year period 1928-33 the gov. tried the experiment again but on a larger scale and by a more gradual process. The peasantry would have preferred to continue with their individual farms, while widely co-operating with each other in securing machinery and in marketing their produce. But the gov. preferred to drive them by force into collective farms through the agency of the fanatic *komsomols*. By the spring of 1930 these young revolutionary authorities reported that two-thirds of all the farms in the country were already collectivised. But though the peasants might have been driven into collectivism, the farm work was ruined and when the pressure was withdrawn, the new collective farms collapsed of themselves. Stalin then summed the process in a different way. He began by taxing individual farms almost out of existence or hedging them round with restrictions of sales to gov. monopolies. This was followed by an individual attack on all who were labelled Ks. by local rivals or enemies. The condemned man and his wife were robbed of house, implements, and everything else and carted away to concentration camps to work as slaves for the gov. In many places there was the most stubborn joint resistance, ending in pitched battles and interspersed with isolated assassinations. The gov. reckoned that there were as many as 1,000,000 families on the lists of the condemned, which in effect meant 5,000,000 persons. Not all of these were killed, sometimes

they were merely removed to other and inferior land, perhaps outside the neighbourhood, and later moved on further, as new collectivisation spread over the country; but as Ks. they were liquidated or, in other words, ceased to exist as such. The result was that the 'middle peasant', who wished, if possible, to become well-to-do in his turn, had a mortal fear of incurring the fate of the labelled Ks. and had no alternative but to enter the collective farm. In the first year of this period, sale confiscations of all that had belonged to the Ks. amounted to about 400,000,000 roubles. *See M. Hindus, Broken Earth*, 1926, and *Red Bread*, 1931; also Sir B. Pures, *Russia*, 1941.

Kulasekharapatnam, tn. of Madras, India, on the gulf of Manar in the dist. of Tinnevely. Pop. about 20,000.

Kulbarga, or **Gulbarga**, tn. in Hyderabad, cap. of the dist. of K. and a trade centre. It was originally a Hindu city, and was the cap. of the Bahmani kings (1347-1432), and still contains the ruins of the palaces and tombs of these kings. There is also the ruin of an old fort, containing a fine Pathan mosque. Pop. 30,000.

Kuldiga (Ger. *Goldingen*), dist. and tn. of the Latvian S.S.R. in Courland. It is situated on the Venta R., 10 m. from the Baltic. Pop. (tn.) about 7000.

Kulja, III, or **Ningyuan**, walled tn. of Central Asia, in Sinkiang, on the R. III. It is one of the chief cities of the region, an important trade centre and the seat of the Russian consul. The two chief buildings are the Taranchi and Dungan mosques. Paper and vermicelli are manufactured, and wheat, barley, poppies, and lucerne cultivated. From 1870 to 1881 it was in Russian hands. Pop. 10,000.

Kulm, or **Chelmno**, tn. on the R. Vistula, Poland. It has ant. wells and large oil works, saw-mills, and machinery works. Its trade is important. Pop. 29,200.

Kulmbach, walled tn. of Upper Franconia, Bavaria, Germany. 11 m. from Bayreuth. It is famous for its breweries, malting, and bottling works, especially for its black beer, which is largely exported. Pop. 12,000.

Kulmasz, tn. in the prov. of Pomorze, Poland, 14 m. N. of Torun. It was the see of the bishops of Kulm from 1243 to 1824. Pop. 10,600.

Kulp, tn. in the Kars vilayet of Asiatic Turkey, situated to the S.W. of Erivan, Armenia S.S.R. Enormous quantities of rock salt are found here. Pop. about 3000.

Kulu, valley of the Kangra dist. of E. Punjab, India, with rich undeveloped deposits of silver, copper, and lead. It also produces very fine fruits and vegetables.

Kulun Nor, *see* DALAI NOR.
Kulyab, region of the Tajik S.S.R. Russian Central Asia.

Kum, **Kom**, or **Qum**, tn. of Persia, on the Anarbar R., cap. of the prov. of the same name. It is connected by road with Teheran, and is also noted as a place of

pilgrimage, containing as it does the shrine of Fatima (d. 816), the sister of Riza, the eighth Imam. There is a manuf. of porous vases. Pop. 30,000.

Kumamoto, garrison city of Kyushu, Japan, about 50 m. E. of Nagasaki. It is the centre of the Higo rice trade, and is at the S. end of the Kyushu coal-field. Pop. 190,000.

Kumania, or **Cumania**, dist. of Europe at the time of the crusades, extending N. of the Danube and N.W. of the Black Sea, comprising the present Moldavia, Wallachia, and part of S. Russia, W. of the Dnieper R.

Kumarila Bhatta, known also as **Bhat-tacharya**, celebrated Brahmin teacher who lived about A.D. 600. He was an exponent of the Mimamsa system of Hindu philosophy, and strenuously opposed the Buddhists, whom he is said to have extirpated. He annotated the *Sutras*, and was noted for his interpretation of the Vedic texts.

Kumasi, or **Coomassie**, cap. of Ashanti in the Gold Coast ter. on the W. coast of Africa, and a city of some antiquity. Its port is Sekondi, on the gulf of Guinea. It was taken in 1874 by a Brit. expedition under Sir Garnet Wolseley. It was again taken by the Brit. in 1893-96 and 1900. It is situated in a clearing of the dense Ashanti forest. At one time 'blood-stained' K., it is now composed of clean, straight streets. Manchester cotton goods, enamelled basins, brass bowls, masses of beads and trinkets fill the shops. There is electric light, and a modern water supply. There are sev. churches, hospitals, schools, and a motor park. A gov. railway links K. with Sekondi (168 m.) via Tarkwa; and another line joins K. with Accra (192 m.). There is also a telephone exchange. In 1900 K. was a mere fortress in the bush, though it was the most recent of the Gold Coast castles, having been built in 1897. This castle was the stronghold of the governor, Sir Frederick Hodgson, and his wife when they were besieged by the Kumasis (1900). Hodgson's small garrison had almost reached starvation point, when they decided to cut their way out to the coast. Pop. 45,000. For the part played by K. in the Ashanti wars see GOLD COAST.—*History*: GOLDEN STOOL. *See* W. W. Cluridge, *History of the Gold Coast and Ashanti*, 1915; and W. M. Hall, *The Great Drama of Kumasi*, 1939.

Kumaun, or **Kumaon**, div. of the United Provs., India, with headquarters at Naini Tal, and consisting of the three dists. of Naini Tal, Almora, and Garhwal. It lies mainly on the S. slopes of the Himalayas, and includes many of the prin. summits. At the foot of the mts. lies an extensive forest, cleared in places for the dwellings of the hill tribes and for tea plantations. There are mines of iron, lead, and copper, but they are little worked. The country was seized by the Gurkhas at the end of the eighteenth century, but was annexed to Brit. India after the Gurkha war of 1815. Area 13,722 sq. m. Pop. 1,600,000.

Kumbhakanam, *see* COMBACONUM.
Kumbum, or **Gumbum**, important lacemaking in the prov. of Kansu, China.

130 m. W.N.W. of Lanchow. It is a Buddhist pilgrim resort.

Kumis, see KOTMISS.

Kummel, liqueur containing 33 per cent of alcohol, originally exported chiefly from Riga. It is flavoured with cumin and bruised caraway seeds.

Kun, Bela (1886-1939), revolutionary leader in Hungary; son of one Kohn, a Jewish notary at Szilagyócsch. K. graduated in jurisprudence at Kolozsvár. Captured by Russians early in the First World War, he adhered to Bolshevism, and was sent home as propagandist.



Topical Press

BELA KUN

Count Károlyi (q.v.) handed over the gov. of Hungary, March 1919, to Alex. Garbai, the mere tool of K., people's commissary for foreign affairs, who inaugurated wholesale communisation of property. The country pop. was recalcitrant; and K.'s army, successful against the Czechs, was defeated by the Rumanians, upon whose advance K. fled to Vienna. He escaped to Russia, but turned up in Vienna again in 1922 and was imprisoned. From 1921 he was a member of the International Communist executive and president of the Communist International, Moscow, Aug. 1928. He was reported shot in Aug. 1939 on Stalin's orders. See also HUNGARY. See L. Bigony, *Tage ungarischer Bolchewismus*, 1920, and life by C. Herczeg, 1928.

Kunar, riv. of Afghanistan which gives its name to a very beautiful valley. It rises in the Hindu Kush Mts., and is known by the various titles of Yarkhun, Chitral, Kashkar, and Kunar; joins the

Kabul a little below Jalalabad. The anct. tns. of Kunar and Pashat lie upon its banks.

Kunshinjinga, see KANGCHINJUNGA.

Kundt, August (1839-94), Ger. physicist, b. at Schwerin, Mecklenberg. He is best known by his researches in sound, and has given his name to the method of determining the velocity of sound vibrations by dust figures. He also determined the ratio of the two specific heats of a gas and did some valuable work in optics, dealing with the anomalous dispersion of light and the optical characteristics of metals.

Kunduz, state and tn. of Afghan Turkestan. The state is bounded on the N. by the Oxus R., and on the S. by the Hindu Kush Mts. The tn. is the trade centre of a large dist. Pop. 400,000.

Kunene, see CUNENE.

Kunersdorf, vil. of Brandenburg, Germany, 6 m. from Frankfurt-on-Oder. Here Frederick the Great at the head of the Prussian Army, was defeated by the combined armies of the Russians under Soltikoff and the Austrians under Loudon in 1759. Pop. 1000.

Kungur, tn. on Sylva R. in the Sverdlovsk Region of the R.S.F.S.R. on the Siberian highway. It has tanneries, leather factories, and iron foundries. Alabaster is quarried, and there are copper and iron mines. It has an important fair, and is famous for its alabaster caverns. Pop. 41,000.

Kunkel, or **Kunckel**, von Lowenstjern, Johann (1630-1703) Ger. chemist. He shares with Boyle (q.v.) the credit for discovering the process by which Brandt of Hamburg had succeeded in 1669 in preparing phosphorus. This was by distilling concentrated and putrefying urine with sand. He was also a skilful manufacturer of glass.

Kun Long, dist. in the Shan states, Burma, and also a ferry on the Salween. The Burmese formerly had a customs station here, until the depredations of the Wa, or hill-men, made the place dangerous for traders.

Kun Lun, **Kwen Lun**, or **Kuen Lun Mountains**, term used to designate generally the mt. ranges which run along the N. edge of the Tibetan plateau. In its widest sense the K. L. Mts. stretch in a waving line for nearly 2500 m. from E. to W. In the W. portion the ranges are 'squeezed' together more closely, having a breadth of 150-200 m. only, and the summits are correspondingly loftier. In the E. portion the breadth increases to 600 m. and the ranges are consequently less folded and flatter. The K. L. are the backbone of the tectonic structure of Asia. A peculiar feature of the Tibetan plateau is that the outermost border range is throughout double, as are the lake basins between the mts. The K. L. Mts. are much older than either the Himalaya or the Tianshan; the highest summits reach 21,500 to 22,000 ft., but there are no greatly outstanding peaks, as the general level is so high. The importance of the K. L. system was recognised from very early times, but K. Hittler was the first

to recognise their true character: Baron von Richtofen still further defined them and represented them as a complex arrangement of sev. parallel ranges running in a wavy line from 76° to 118° E. His classification was sound in its general outline, but the details have been very considerably revised by the labours of Russian, Eng., Fr., Hungarian, and Swedish explorers, amongst whom Sven Hedin stands out pre-eminently. The K. L. is now generally divided into three main parts, the W., extending from 76° to 89° E., the Middle to 104° E., and the E. K. K. to about 112° E.

Kunming, or Yunnanfu, cap. of Yunnan prov., S.W. China, a city of great importance as a trade centre between the far W., and central and S. China. During the Second World War many industries were transferred to K. from the E. provs., and the city was also the Chinese terminus of the Burma Road and a U.S.A. air base. Pop. 250,000.

Kunti, in Hindu mythology a heroine of the *Mahabharata*, daughter of the Yadava prince Shura. She was the mother of Karna by the sun, and afterwards became the chief wife of Pandu and bore three sons.

Kuntsevo, tn. in the R.S.F.S.R. Pop. 60,900.

Kuomintang, Chinese Nationalist party, formed originally by the followers of Sun Yat Sen (q.v.). Its executive committee promulgated, on Oct. 4, 1928, the 'Organic Law (or Law Governing the Organisation) of the Nationalist Government of the Republic of China,' though in Dec. of 1931 this law was considerably amended. The Chinese National Gov. at Nanking was appointed by the K., to the congress of which it was responsible. See further under CHINA, History. See Tang Leang-li, *The Inner History of the Chinese Revolution*, 1930; P. M. A. Lichbarger, *Government in Republican China*, 1938, and *The China of Chiang Kai-shek*, 1941.

Kuopio: 1. Prov. in the middle of Finland, including N. Karelia. The surface is hilly, and large lakes cover about 17 per cent of it. The soil is of moderate fertility but very little of it is cultivated. There are engineering and chemical works, tanneries, and saw-mills; carts and sledges are also made, and timber, iron, butter, furs, and game exported. Dairy farming and cattle breeding are extensively carried on and a large quantity of iron is mined. Area 14,600 sq. m. Pop. 398,500. 2. Tn. and cap. of the above, on Lake Kallavesi, is a trading centre of considerable importance, and has communication with middle Finland and the sea (via Salma Canal). Pop. 24,800.

Kupfernickel, mineral from which nickel is extracted. It is a compound of nickel and arsenic, NiAs.

Kuprili, see KÖPRÜLÜ.

Kuprin, Alexander Ivanovich (1870-1938), Russian novelist and short-story writer, noted for his realism. He was b. at Narovtchad, and, after education at Moscow, served in the army from 1890 to 1897. This experience is exploited in his most famous book, *The Duel* (1905). He

was a prolific and popular writer, but at the revolution he found it impossible to support the Bolsheviks and settled in France. He pub. his first book of stories in 1903; a collected ed. of his works, in 6 vols., in 1910; and subsequently a larger collection in 14 vols. Some of the best known of his works of which Eng. trans. exist, in addition to *The Duel*, are *The Shulamite* (1909); *The Bracelet of Garnets* (1912); *Sasha: The River of Life* (trans. 1915); *A Slav Soul* (trans. 1916); *The Swamp* (Everyman's Library, 1912); *Gambinus Sulamith* (1914); *Lama* (1915); and *Yunkera* (1933).

Kurdistan, mountainous region of W. Asia, once part of anct. Assyria. It is mostly in Asiatic Turkey, partly in Armenia, Persia, and Iraq. K. stretches S. from the R. Araxes (Aras) to the plains of Mesopotamia and mts. of Luristan, and E. from the upper Euphrates to the upper course of the Tigris and Urmiah in Persia. The chief vilayets are Diarbekr, Bitlis, Mamuret-ul-Aziz, Van, while Ardahan and Azerbaijan provs. are in Persia. Diarbekr, Bitlis, Urmiah, and Kerman-shah are the prin. tns., and it includes the great lakes of Urmiah and Van. Wool, butter, gun, skins, hides, and sheep are produced, Syria obtaining most of her mutton from K. S. K. is in Mesopotamia. The only part of that country to receive enough rain to make irrigation unnecessary, it is a fertile dist. producing good crops and excellent pasture. Oil has been found near Kukuk, the prin. tn. The Kurds, or Koords, are a wild, pastoral, partly nomadic people, speaking an Iranian dialect. Each tribe has its own chief, nominally subject to the Turkish republic and the shah of Persia. The Yazidis of the Sinjar range show traces of Zoroastrian influence, while the rest are mostly Mohammedans of the Sunni sect. N. of Mosul there is a large Christian pop., but the Kurds are very hostile to Christians, and their cruel massacres of the Armenians are well known. During the First World War the Turks raised bodies of irregular horse from among the Kurds, and the dist. was the scene of fighting between the Turks and Russians. By the treaty of Sévres, Turkish K. was to become an independent and autonomous state, but this decision was revoked by the treaty of Lausanne, the Kurds becoming the only important alien element in the pop. of the new Turkey. A very independent people, fanatically religious, almost entirely illiterate and uncultured, possessing a strong tribal sense, the Kurds during the First World War developed a vague feeling of nationality and a bitter dislike of the Turk. Deprived of their hoped-for independence, they yet remained quiet until the abolition of the caliphate aroused their religious fanaticism.

In Feb. 1925 they rose in rebellion, which, after three months—owing to lack of transport and the difficulty of moving troops over mts. in winter—was put down with great severity, the Dervish monasteries, considered the chief source of disaffection, being suppressed. Split up among three states—Persia, Turkey, and,

Iraq (and with a few enclaves in Syria and Soviet Armenia) - the Kurds have struggled in this century to maintain a cultural identity and a freedom of movement which, in the past, had been assured them by the inaccessibility of their mt. strongholds. The vague feeling they have in common is hardly homogeneous enough to be termed nationalism; for their isolation in separate mt. valleys has produced considerable differences in their spoken Kurdish tongue and much inter-tribal rivalry and suspicion. Yet their national feeling is undoubtedly deep-rooted and sufficiently so for the Iraqi Gov. to fear a Kurdish separatist movement. The Kurds have long been a problem to the Iraqi Gov. In the formative years of the Iraqi State the Kurds of Iraq, like other minorities in the E., thought that a new era had dawned for them, but as the years passed it seemed to them that they were neglected and their resentment was enhanced by the apparent repressiveness and corruption of the Iraqi Gov. The most intractable of the Iraqi Kurds, who number 500,000, have been those of the Barzani tribal confederacy, who dwell in the rugged tract S. of the Turkish border. They fomented a rising in 1915, which was only settled by a liberal expenditure of cash from the Iraqi ministry of the interior. Since then Iraqi K. has been quiet. Kurdish discontent in Iraq has never been as acute as in Persia or Turkey, and has usually been due less to the malice or repression of the central gov. than to its inefficiency. That a Kurdish problem exists admits of no real doubt; but it is one of economics and culture, to which political separatism and aims of 'national independence' can in the long run give no answer. It is the problem of transforming backward turbulent communities of primitive agriculturists, semi-nomads, and part-time brigands living under patriarchal tribal rule, into peaceful citizens of a modern state, without destroying local patriotism and cultural traditions which hold them together. Standard written Kurdish has not yet developed sufficiently to be used as a medium of higher education, although Kurdish intellectuals in Bagdad and in Persian K. have already pub. magazines and books in their own language. Area about 71,390 sq. m. Pop. about 2,500,000, 675,000 dwelling in Persia, a number of them being found in the extreme S.E. See J. Cravagh, *Armenians, Kurds, and Turks*, 1840; F. Mithingen, *Wild Life among the Kurds*, 1870; H. F. Lynch, *Armenia*, 1901; A. Jackson, *Persia, Past and Present*, 1906; W. R. Hay, *Two Years in Kurdistan*, 1921; A. Toynbee and K. Kirkwood, *Turkey*, 1926; A. M. Hamilton, *Road through Kurdistan*, 1943; and A. Safranlian, *Kurds and Kurdistan*, 1948; also the writings of Jaha (1860-79), Houssaye (1888), and Chantre (1889, 1896).

Kurgan, tn. on the Siberian Railway, in the Chelyabinsk Region of the R.S.F.S.R. In an agric. dist., it has a flourishing trade in cattle and foodstuffs. Prehistoric burial mounds have been found near by. Pop. 53,200.

Kurhessen, see HESSE-CARSEL.

Kurla Muria, group of rocky is. in the Arabian Sea, which have been in Brit. possession since 1854. They are five in number, and have a total area of 28 sq. m. They are chiefly used as a cable station, but guano is obtained.

Kuriles, or Kuril Islands, Jap. Chishima (Thousand Isles), a group of some thirty is. in the N. Pacific, lying between Kamchatka and Yezo. A continuation of the volcanic mts. of E. Asia, they formed, while in Jap. possession, a prov. of Hokkaido. Chikuratski, Blakiston, Milne, and other peaks abound in forests. The inhab. are Kamchadal and Ainu, and trade chiefly in furs and fish. The chief is. are Kunashiri, Shikotan, Etorofu (once known to Europeans as Staten Is.), Onnekotan, Paramoshiri, and Shumshu. Tomari is the port nearest Japan. The capture of Attu in the Aleutians in 1943 made it possible for Amer. aircraft to attack the Jap. base of Paramoshiri in the K. By the terms of the secret agreement made at Yalta (q.v.) between Russia, America, and Great Britain it was agreed (*inter alia*) that one of the conditions of Russia's entry into the war against Japan should be that the Kurile Is. should be handed over to the Soviet Union (pub. in Cmd. 6735, 1946). Area 6160 sq. m. Pop. 13,000. See H. J. Snow, *Notes on the Kuril Islands*, 1896; S. Bergmann, *Sport and Exploration in the Far East: a Naturalist's Experiences in and around the Kurile Islands*, 1933.

Kurische Haff, or Curisches Haff, bay or backwater of the Baltic Sea in E. Prussia. It extends along the coast S. of Memel for more than 50 m. and is separated from the open sea by the Kurische Nehrung, a narrow sandy ridge. At the N. it opens into the sea by a channel called Memel Deep.

Kurla, tn. of India, Salsette Is., on the E. coast, 8 m. N.E. of Bombay, with which it is connected by the Sion causeway. Its cotton mills, the first to be estab., were once famous. Pop. 15,000.

Kurland, or Courland, formerly a Baltic prov. of Russia, with the gulf of Riga on the N., and the Baltic on the W. The greater part is now included in the Latvian S.S.R., the rest in the Lithuanian S.S.R. (see Baltic Provinces). The surface is generally low, and the coastlands are flat and marshy. The climate is temperate. There are many rivs., but only three are navigable, the Dvina, the Ab, and the Windau. Agriculture is the chief occupation, but manufs. are developing, especially at Yelgava (Mitau) and Liepaja (Libau), where the prin. industries are leather tanning, brewing, and the making of machinery and iron goods, glass, and soap. The prin. crops are rye, barley, oats, wheat, flax, and potatoes, and there are excellent breeds of cattle and sheep. Forests cover nearly 20 per cent. of the ter. Iron and limestone are the chief minerals. There are no ports in the gulf of Riga, and only two good ones on the Baltic coast, Liepaja and Ventspils (Windau). The Ger. Army occupied the country in 1915, and did not evacuate it until the autumn

of 1919. Area about 10,435 sq. m. Pop. 812,300. For the campaigns in K. in the Second World War see *under* EASTERN FRONT OF RUSSO-GERMAN CAMPAIGNS IN SECOND WORLD WAR.

Kuroki, Tamemoto Tamasada, Count (1844-1923), Jap. general, b. in Satsuma. He figured prominently in the later stages of the Chino-Jap. war (1894-95), and was made baron for his services. In the Russo-Jap. war (1904-5) he commanded one of the armies in Manchuria, won the battle that isolated Port Arthur, and was present at Liao-Yang, Chahoe, and Mukden. He was created count for his services in this war.

Kuropatkin, Alexei Nikolaievich (1848-1925), Russian general, b. at Chemchurin, Pskov, entered the army in 1864, and distinguished himself in the Kashgar campaign. In the Russo-Turkish war of 1877-1878 he was chief-of-staff to the younger Skobelev and laid the foundation of his great reputation as a soldier. After the death of Skobelev in 1882 he reorganised the Russian Army. He was commander-in-chief in Caucasus in 1897, and minister of war in 1898. On the outbreak of the Russo-Jap. war (1904-5) he was appointed to the chief command in Manchuria, but met with a series of reverses culminating in the disastrous battle of Mukden. His failure may have been partly due to not having an entirely free hand. After Mukden, he resigned in favour of Gen. Linievich. He wrote a hist. of the war, in which he candidly admitted his own mistakes. He had previously pub. works on the Balkan and central Asian wars. In the First World War he was commander-in-chief on the N. front until his appointment as governor of Turkestan in 1916. After the revolution he sank into obscurity.

Kurrahee, see KARACHI.

Kursaal, see CASINO.

Kursk: 1. Region of the R.S.F.S.R., lying in the basins of the Dnieper and the Don. There are hills of limestone and sandstone in the E., and iron deposits are being worked, but the rest is chiefly flat plains of fertile arable land (black earth), watered by numerous small streams. Hides, bristles, grain, and hemp are produced, also some beetroot and tobacco. There are fine orchards, and the honey and cattle of K. are noted. The region first came under Russian rule about 884; it was part of Russian or Muscovite Ukraine from the fourteenth to the eighteenth century. Formerly a poor prov., with a high percentage of illiteracy, brought about by famines and internal upheaval. In the Second World War the Gers. launched a very strong offensive against the K. area (July 5, 1943); but the Russians repelled by capturing Orsk (Aug. 4), and eliminating the Kursk-Orsk bulge. (See *under* EASTERN FRONT or RUSSO-GERMAN CAMPAIGNS IN SECOND WORLD WAR.) Area about 17,937 sq. m. Pop. 3,196,900. 2. Cap. of above, on R. Kur and the Moscow-Sebastopol railway. There are manuf. of candles, soap, spirits, tobacco; flour mills, tanneries, and distilleries. The Korennaya fair is held here about Easter. There are two monasteries,

a cathedral, and an observatory. K. was pillaged by Tartars (1240), and suffered from riots subsequent to the Russo-Jap. war (1905). The scene of heavy fighting against the Gers. in 1941-42. A Ger. attack between Orsk and Kharkov, both then in Ger. hands, brought the Gers. to K. on Nov. 3, 1941. Ger. armoured divs. then broke through the Russian front between K. and Tula, and drove a wide bulge far to the E., despite strong Russian counter-attacks, and the severity of the Russian winter K. remained in Ger. hands for some time, and at the end of June 1942, they struck the first blow in a new major offensive from the direction of K. K. was eventually retaken a year later. Pop. 120,000.

Kuruman, missionary station in Bechuanaland, S. Africa, at the source of the K. R., 120 m. N.W. of Kimberley. Irrigation by boreholes is being carried out in the dist. Pop. about 5000.

Kurume, tn. of Kyushu, Japan, 50 m. N.E. of Nagasaki. Pop. 80,000.

Kurunegala, chief tn. in the W. prov. of Ceylon, was the seat of a royal residence in the fourteenth century; it is 59 m. from Colombo, and has crops of rice, tobacco, tea, coffee, cocoa, etc. Near by are some famous Buddhist monasteries. Pop. about 5500.

Kus, see RHODAS.

Kushiro, tn. on the S.E. coast of Yezo, Japan, cap. of K. prov. It is the nearest port to the sulphur mines of Yezo. Pop. 53,400.

Kusi, Kosi, or Koosoe, riv. of India, which rises in the Himalayas of Nepal, flows S., and finally enters the Ganges. It has a length of 325 m.

Kussnacht, com. of Switzerland, 7 m. E.N.E. of Lucerne, at the N. end of Lake Lucerne. Here it was that Wm. Tell escaped from Gessler. Pop. 3600.

Kustanal, tn. on the Tobol R. in the Karakh S.S.R., in the region of the same name. There are tanneries and potteries, and tallow is manufactured. It contains a cathedral. Pop. 35,200.

Küstendil, or Kiustendil, dist. and tn. of Bulgaria, and cap. of the prov. of K. on a trib. of the R. Struma, 43 m. S.W. of Sofia. It is the seat of a Uk. metropolitan, and is noted for its hot mineral springs and fruit production. Pop. (dist.) 243,000; (tn.) 10,200.

Kustendje, see TOMI.

Kustenil, see CONSTANTIA.

Küstenland (coast-land), former prov. of Austria-Hungary at the head of the Adriatic, which embraced Istria, Trieste, Gorz, and Gradiska. Area 3078 sq. m.; pop. 938,000. Is divided between Italy and Yugoslavia.

Küstrin, tn. and fortress at the confluence of the Oder and Warthe, about 51 m. N.E. of Berlin by rail. The old tn. was within the strong fortifications of the circle of Königsberg in der Neumark, in the dist. of Frankfurt, Prussia, while its suburbs were on the l. b. of the Oder and the r. b. of the Warthe. About 1250 a tn. was erected on the site of K., where a fishing vil. once stood. From 1535 till 1571 it was the residence of the margrave

of Brandenburg-Küstrin. K. was the prison of Frederick the Great, and the scene of the execution of his friend, Katte. K. has some minor manufs. and a riv. shipping trade. It was the scene of heavy fighting in the Second World War in the course of the advance of Marshal Zhukov's forces on Berlin. Pop. 30,000. *See further under EASTERN FRONT, or RUSSO-GERMAN CAMPAIGNS IN SECOND WORLD WAR.*

Kusura, anct. tn. of Turkey, near Afyan Karahisar, with remains of a cemetery, and a mound which was the site of the tn., lying in the lines of communication between the uplands around Ankara, and the Meander valley and fertile S.W. plain. K. was first occupied in the Chalcolithic Age about the close of the fourth millennium. There was a second period in the third millennium, the gradual introduction of wheel-made pottery marking the transition to a third period. The latter shows evidence of a connection with central Anatolia and the Hittite interior, and some suggestions that the tn. survived, though not for long, after the beginning of the Iron Age. The pottery of the second period strikingly resembles that found in S.W. Asia Minor.

Kutalah, Kutaya, or Kutahya, anct. Cotæum, tn. of Asiatic Turkey, in the vilayet of the same name. There are sev. Christian churches, and a large anct. fortress. Carpets and pottery are made, and meerschaum is found near by. Pop. 92,000; (vilayet) 384,300.

Kutais: 1. Area of the Georgian S.S.R., E. of the Black Sea. It has a very varied surface consisting of lowlands along the shore of the Black Sea, and mts. in the N. and S. It has a moist, warm climate, and the land is well cultivated. Indian corn and wheat are the chief crops, but vineyards cover a large area, and there are also cotton plantations. The bee and silkworm are cultivated, and the prov. contains some extensive forests, and exports timber. The chief mineral is manganese ore, which is largely exported, but copper, silver, coal, zinc, and naphtha are also found. Area 3502 sq. m. Pop. 300,000. 2. Tn. in the above area on the R. Rion. It is a very old tn., and is said to have existed in 1200 B.C. It contains the ruins of an eleventh-century cathedral, and has a good botanical garden. Near the tn. is an important power station which utilizes the waters of the R. Rion to produce electricity for the Poti-Thbilisi railway. Silk spinning and weaving is carried on at K. and its recently estab. chemical industry concentrates on nitrogeous fertilisers. Pop. 81,400.

Kut al Amara, tn. in the liwa or prov. of Kut in Iraq, situated on the Tigris, 32° N. lat., 47° E. long., some 200 m. below Bagdad. Pop. (tn.) 14,000; prov. 180,100. It was the scene of the only protracted siege (except that of Przemyśl) in the First World War. In this historic siege a Brit. force, reduced during the siege from 15,000 to less than 7,000, under the command of Maj.-Gen. Sir Charles Townshend, surrendered to the Turks on April 29, 1916, after holding out for 143 days. Townshend's troops formed part

of a small Brit. expeditionary force commanded by Gen. Sir John Nixon, which had rashly proceeded some 200 m. up-country in the hope of achieving some spectacular success to counteract the Gallipoli failure. K. was occupied by Brit. forces on Sept. 29, 1915, and Townshend was then ordered by Nixon to march on Bagdad. He attacked Ctesiphon (q.v.) on Nov. 22 but was heavily defeated with the loss of over 4,000 men of his div., and then fell back on Kut, which place the Turks at once surrounded and invested. Reinforcements were ordered from India, and Russian forces pressed along the Hamadan road through Persia to his relief. Gen. von der Goltz, in control of the besieging army, redoubled his exertions, while a Brit. relief force, which made great efforts to pierce the powerful Turkish line at Sanna-1-yat, 16 m. E. of K., was repulsed. By April 1916 Townshend's force was in dire straits, only scanty food supplies reaching him by aeroplane, while by now the full weight of the Turkish Gallipoli armies was being used against Mesopotamia and Armenia. The fall of K. enabled the Turks to concentrate practically their whole strength against the Russians in Armenia, besides involving repercussions throughout the Middle E., damaging to Brit. prestige. The sequel to the surrender forms a tragic *Odyssey* in Brit. military annals. Of 2680 Brit. non-commissioned officers and privates taken at K., 1306 d. and 149 were never traced, so that over 65 per cent of them perished. The fate of the Indian soldiers was no better, and all the prisoners were forced by the Turks to make their way as best they could across the Syrian desert, in the course of which the whole of them perished (consult Cmd. 9208). K. was again in Brit. possession in 1917 when it was captured by Sir Stanley Maude, together with 1730 prisoners, including four Ger. regimental commanders. The responsibility for the K. capitulation is not easy to assign, the popular press for long spoke of Townshend as the hero of K., but in official circles he was strongly criticised. His force, however, was quite inadequate to the task laid upon it by higher authority, being indeed less than one-fifth the size of that of Gen. Maude. *See C. W. S. Sanders, In Kut in Captivity, 1919; Sir C. Townshend, My Campaign in Mesopotamia, 1920; Sir A. Wilson, Loyalties: Mesopotamia, 1914-1917, 1931.*

Kutanu, *see* KOTANU.

Kutch, *see* CUTC H.

Kutenai Language, *see under* NORTH AMERICAN NATIVE LANGUAGES, *Pacific Area.*

Kutná Hora (Ger. **Kuttenberg**), mining tn. in Czechoslovakia, 40 m. E.S.E. of Prague. Tobacco, sugar, and cotton are produced; and the tn. contains a thirteenth-century royal castle. Pop. 13,900.

Kutno, manufacturing tn. of Poland, 83 m. W. of Warsaw. It has breweries and distilleries and beet sugar is made. Pop. 12,000.

Kuttenberg, *see* KUTNÁ HORA.

Kutusov, or Kutuzov, Mikhail Ilarionovich (1745-1813), Russian field-marshal, joined the army at the age of sixteen, fought against the Turks in 1770, again in the war of 1788-92, and gained especial distinction at Shumla, Ochakov, and Ismail. Tolstoy refers to him as 'the genius of Russia,' because during Napoleon's disastrous campaign of 1812 he proved so admirable a generalissimo of the native forces, offering a most stubborn resistance to the emperor at Borodino and inflicting a crushing defeat on Ney and Davout at Smolensk. His part in the downfall of Napoleon is dramatically portrayed in Hardy's *The Dynasts*, and he is pictured in Tolstoy's *War and Peace*.

Kuurne, tn. in W. Flanders, Belgium, situated on the R. Lys, 2 m. N. of Courtrai, engaged in agriculture, cultivation, and retting of flax and manuf. of lace. Pop. 8300.

Kuwait, or Kuweit, see **KOWHIT**.

Kuwana, tn. of Iwodo, Japan, 55 m. E. of Kyoto. Pop. 21,000.

Kuyper, or Kuiper, Abraham (1837-1920), Dutch theologian and politician. He violently opposed 'modernism' and defended Calvinism. He was elected to Parliament (1874-77). K. founded the Free Univ. of Amsterdam (1880) and Reformed Free Churches (1886). After bringing about the alliance between orthodox Protestants and the Rom. Catholic party, he became Prime Minister (1901-5). His works include the editing of the *Encyclopædia Sacra Theologia*, (1898-1901); and of *Joannis à Lasco Opera* (1898); *Lectures on Calvinism* (1898); *The Incarnation*; *Socialism and Christianity*; and *The South African Crisis*.

Kuznetsk, name of an important coal basin of W. Siberia lying between the two ranges which branch off from the highland mass in the N. Altai—the Kuznetsk Alai Tau and the Salayer range. The coal-field is to the S.E. of the large tn. of Novosibirsk and is served by two branches of the Trans-Siberian railway. The seams of these great coal deposits were almost untouched in tsarist Russia, but to-day they supply fuel to the great industrial centres of the Ural-Kuznetsk Combine. The ann. output of this combine is of the order of 20,000,000 tons. The tn. of K. was but a vil. in the eighteenth century, peopled by smiths, whence its name. Towards the latter part of the nineteenth century it had a pop. of 15,000 and was engaged in the manuf. of agric. implements and in the manuf. of leather. To-day it is a tn. of 170,000 inhab. and is the chief centre of the Siberian steel industry. It has been renamed Stalinsk. See further under **STALINSK** and **LENINSK-KUZNETSK**.

Kuala-Lumpur, see **KUALA LUMPUR**.

Kwangchowan, Fr. ter., coaling station and free port situated on a bay of great importance in the Luchow Peninsula, S. China. It was leased to France in 1898-1899. Fort Bayard is the cap. Area 190 sq. m. Pop. 206,300.

Kwangchowfu, Chinese name for Canton, the port and cap. See **CANTON**.

Kwang-hsu (1875-1908), emperor of

China, b. in 1871. Although he was nominally the ruler, the Empress Tze-hsi really had the power, and constituted herself regent, after having succeeded in putting him on the throne. In 1898, although she had retired from power, she compelled him to issue an edict again making her regent, and this influence she exercised until the end of his reign.

Kwangsi, inland prov. of China, bounded on the N. by Kweichow, and on the S. by Kwantung. It is almost entirely in the basin of the Sikiang, the main stream of which traverses the centre of the prov. from W. to E. The surface is mountainous, and valuable timber is obtained, and cinnamon of excellent quality. Silver is the only mineral worked with advantage, but gold, copper, lead, tin, and coal are all found, the latter especially in the country round Pao-se. The chief articles of commerce are timber, indigo, sugar, and tea. Nanning on the West R. is the present cap. (the old cap. was Kweilin). Area 85,400 sq. m. Pop. 11,603,000.

The prov. was invaded and occupied by the Jap. in 1939-40. On Jan. 31 (1940) the Jap. opened an offensive from Nanning to the N.E. and N.W. and took Pinyang, 25 m. N.E. of Nanning. A Chinese counter-offensive was launched on Feb. 12 and after hard fighting, with heavy casualties on both sides, the Jap. evacuated Nanning (March 18). See further under **CHINA, HISTORY**. (See illustration, p. 220.)

Kwangtung, maritime prov. of S.E. China, bounded S. and E. by the China Sea. It includes Hainan Is. The chief riv., Chukiang, or Pearl R., is formed of three branches, Sikiang (the largest), Pekiang, and Tungkiang. There are great facilities for internal navigation and coasting trade. Kwangchow is the cap. Its ports include Pakhoi and Samshui. Fruits, grains, vegetables, tea, copper, mercury, coal and other minerals, indigo, cassia, and betel are produced, and silk, embroidery, and lacquered wares manufactured. There are fishing and salt industries. Area, 85,120 sq. m.; pop. 27,826,000. K. was occupied together with much other Chinese ter. by the Jap. in 1937, but in 1945 the prov. reverted to China.

Kwang-yen, cap. of a prov. of the same name, Fr. Indo-China, on the Song-koi delta, 60 m. E. of Hanoi. It is accessible at all times to very large vessels, and lies in a rich coal area. Pop. 40,000.

Kwantung, ter. of S. Manchuria at the S. end of the Liaotung Peninsula, leased by China to Japan before the Second World War. It is generally described in statistical works on the Jap. empire as K. Prov. It has an area of 1438 sq. m. and a total pop. (i.e. including the S. Manchuria railway zone) of 656,700. There are valuable agric. and fishing industries, and salt is mined. The cap. is Dairen; Port Arthur is also important.

Kwanza, see **COANZA**.

Kwara, see **NIGER**.

Kweichow, interior prov. of China, bounded on the S. by Kwangsi and on the

N. by Szechuen. The surface is on the whole mountainous, and the chief riv. is the Yangtsékiang, with its trib. the Wu. The climate is unhealthy, stagnant waters and marshes being the cause of frequent outbreaks of fever. Wheat and maize are the prin. crops, with tea, opium, and tobacco, but the agric. products of the prov. are limited, its chief wealth lying in its minerals. Iron is extracted in the valley of the Wu, which is also rich in coal, and copper is obtained in the vicinity of Kanchui. There is also a considerable amount of mercury, which was formerly

as andalusite, that crystallises in thin, blue or white anorthic blades showing perfect cleavage. Lustre vitreous; birefringence strong; fracture rather fibrous. It is remarkable in exhibiting varying degrees of hardness in different directions—the lowest being $4\frac{1}{2}$ and the highest 7 on Mohs's scale. K. is insoluble in acids. When heated to a high temp., it is converted into a mass of sillimanite fibres. Perfect, well-coloured specimens are sometimes cut for use in jewellery. The mineral is a frequent product of the thermal metamorphism of arenaceous



E. N. A

THE KWEI RIVER, KWANGSI

A group of limestone peaks which lie between Kweihwa and Yangso.

a prin. article of commerce, and gold, silver, tin, and lead exist. The prov. is also noted for its horses. Kweiyangfu is the cap. Area 68,122 sq. m. Pop. 10,519,000, 75 per cent being aboriginal tribes.

Kweihwa, *see* KURIHWA CH'ENG.

Kweiyangfu, tn. of Chihua, cap. of the prov. Kweichow, lies near a coal dist., and from its position is of great importance commercially. Pop. 100,000.

Kwen Lun, *see* KUN LUN.

Kwidzyn (Ger. Marienwerder) tn. in Poland, near the Vistula, 45 m. S.S.E. of Danzig (Gdansk). It possesses an old cathedral. It was founded in 1233 by the Teutonic Order of Knights. It gave its name to the plebiscite ter. which reverted to Germany by vote, July 1920. Before the Second World War it had sugar refineries and manufs. *See* K. H. Glaser, *Marienburg und Marienwerder*, 1931.

Kyanite (Cyanite, or Disthene) (Al_2O_3 , SiO_2), mineral having the same formula

rocks. Notable localities: St. Gothard, Tyrol.

Kyaukpyu, seaport of Arakan, Lower Burma, is at the N. end of Ramri Is. It is the chief tn. of the dist. of the same name, and has a small trade with Calcutta and Rangoon. The harbour extends for many miles, but is rendered dangerous by numerous sunken rocks. Pop. 3300.

Kyaukse, the northernmost dist. of the Meiktila div., Upper Burma, is irrigated by numerous rivers and canals, and the chief produce is rice. K. tn. the headquarters of the dist., is on the r. b. of the Zawgyi R. Pop. of dist. 141,000; of tn. 5900.

Kyd, or Kid, Thomas (1558-94), Eng. Elizabethan dramatist, one of the most important before Shakespeare. Hawkins aroused interest in his name (c. 1773) in connection with *The Spanish Tragedy* (1584-89, printed 1594), dealing with the story of Hieronimo. This play and others

of his enjoyed popularity on into Stuart times. The *Ur Hamlet* (original draft of the tragedy of the prince of Denmark) was probably a lost play by K. (1587). He was friendly with Marlowe, and was arrested with him for 'blasphemies' and imprisoned until after Marlowe's death, when his patron forsook him and he d. in poverty. It may be said that *The Spanish Tragedy* was long the best-known play in Europe and was played as a stock piece in Holland and Germany until the eighteenth century. It estab. a type of play aptly described as 'the tragedy of blood,' to which *Titus Andronicus* belongs, while *Hamlet* itself was based upon an earlier horror-play of the same genre, said to have been written by K. See R. Greene, *Menaiphon*, 1589 (Nash's pref.); Sir A. Ward, *History of English Dramatic Literature*, II, 1881; G. Sarrazin in *Anglia*, Thomas Kyd and sein Kreis, 1892; J. Manly, (ed.) *Specimens of Pre-Shakespearean Drama*, II, 1897; E. S. Jones, *Collected Works and Life*, 1901; G. Sarrazin and R. Koepfel, *Englische Studien* (N.Y. pt. II, xvi, pt. III), 1901; R. S. Forsyth, *Notes on the Spanish Tragedy*, 1926; H. Baker, *Ghosts and Guides*, 1931. There is a bibliography by S. A. Tannenbaum, 1941.

Kyendwin, see CHINDWIN.

Kyffhauser, name of a double line of hills in Thuringia, to the S. of the E. extremity of the Golden Aue, between Keula, and Frankenhäusen. The N. portion lies in the valley of the Golden Aue. The S. crest is surmounted by the ruins of a castle, where Frederick Barbarossa was supposed to be asleep ready to reappear when the old Ger. empire was restored to its ant. glory. Here also was a residence of the Hohenstaufen imperial family, which was destroyed in the sixteenth century. An equestrian statue to the Emperor William I. was erected in 1896. See F. Brather, *Die Kyffhäuser und seine Umgebung*, 1925.

Kyle, middle dist. of Ayrshire, between the R. Irvine and the R. Doon. It was in this dist. that Robert Burns was b.

Kyles of Bute, straits between the Argyllshire coast and the is. of Bute, noted for their beautiful scenery. They are 16 m. long.

Kyōsai, Shō-fu (1831-89), Jap. artist became famous during the great revolution of 1867 for his political caricatures. On more than one occasion these brilliant drawings led to his imprisonment by the party whose susceptibilities he had offended. K. illustrated many books, including *Yehon Taka-kagami* (1870), and *Kyōsai Gudōn* (1887).

Kyoto, or Kioto, important city of Japan, 329 m. from Tokyo. It was founded in 793, and was from that time until the revolution of 1868 the cap. of the Jap. empire. Consequently it contains many interesting buildings, among which are the mikado's palace, a large mass of buildings covering an area of 26 ac.; the Dōshisha, a Christian univ. under the auspices of the Amer. Board Mission; the imperial univ., founded in 1897; the Kitano Tenjin, a temple dedicated to Tenjin Sama, which contains the thirty-six guild of poetry (the usual adornment of Shinto temples); and the San-in-san-zen-do, the temple of the 33,333 images of Kwanon, the goddess of mercy, founded in 1132, the grounds of which contain the Daihatsu, or Great Buddha, and a fine art museum. Bleaching and dyeing are successfully carried on, for K. abounds in clear water, and the city is noted for its manufs. of silk, brocades, embroidery, velvet, porcelain, bronze, and other artistic products. The city was heavily bombed in 1915. See further under PACIFIC CAMPAIGNS. IN SECOND WORLD WAR. Pop. 1,089,700.

Kyrie eleison, form in which the Gk. words *kyrie eleison* usually occur in the Lat. service-books of the W. The occurrence is frequent in the Lat. books, notably in the Ordinary of the Mass, but much more frequent in the E. Church services. The trans., 'Lord have mercy upon us,' occurs in the Eng. Prayer Book at matins and evensong. It also occurs in an expanded form after each of the commandments at the beginning of the communion service.

Kyrie, John (1637-1721), eulogised as 'the Man of Ross' by Pope in his third *Moral Epistle*; received this cognomen from the tn. in Herefordshire in which he passed most of his days. Here he devoted himself to the improvement of the tn. and its social conditions. He also attempted to bring about a moral improvement by diffusing a spirit of charity everywhere. The K. Society was formed in memory of his work in 1877.

Kyshtym, tn. in the Sverdlovsk Region of the R.S.F.S.R., on the Siberian railway, 55 m. N.N.W. of Chelyabinsk. 'Upper' and 'Lower' K. are copper-mining settlements 2 m. apart on the K. riv. K. is also the centre of a gold-mining dist. and has ironworks. Pop. 15,000.

Kythai, see KATHAL.

Kzyl-Orda, Region of the Kazakh, S.S.R. On the Syr-Darya it has been built a large dam and hydro-electric station. Irrigation for 100,000 ac. of rice plantations will be provided; the irrigated area of the region will subsequently be increased to 375,000 ac.

L, the twelfth letter of the Eug. alphabet, is called 'liquid.' The *l*-sound may be made either on the teeth or behind them; it is produced by a lateral emission of the breath, while the tip of the tongue is brought into contact with the front of the palate. In Eug. it is always voiced, but it is quite possible to expel the breath from the same tongue position without vibrating your vocal cords. If this is done there results what is known as a 'voiceless *l*,' which exists in Welsh (written *ll*). The original N. Semitic *lamed* was written *l*, while the Gk. *lambda* was inverted thus: *λ*, *λ*, *λ*, developing to *Λ*. The Etruscan *l* was written *λ* (like the Semitic *lamed*), which developed in Lat. to its present form *l*. O.E. initial *hl*, *wl* is represented in N.E. by *l*, e.g. O.E. *hlant*, *hlac*; N.E. *laughter*, *lake-warm*. *l* medially before a consonant, pronounced in O.E. has frequently become silent, after having modified the preceding vowel, and in some cases has been dropped, e.g. O.E. *wolde*, *swile*, *healf*; N.E. *would*, *such*, *half*. In Scotland, the *l* is sometimes retained, though lost in N.E., e.g. O.E. *felc*, N.E. *each*, Scottish *ilka*. In Scotland, too, final *l* is often dropped, as in *a'*, *aus'*, for *all*, *awful*.

L, as a symbol, often written *℥*, denotes pound, from Lat. *librum*; in Rom. figures it equals fifty, and in chem. *La*, *Li*, and *Lu* are the symbols for one atom of *lanthanum*, *lithium*, and *lutecium* respectively.

Laager (Dutch *leger*, Ger. *Lager*), temporary camp in S. African campaigning, formed by a ring of ox-wagons set close together. First adopted by the Dutch pioneers in 'trekking.' Later used to describe the defensive system for the night encampment of armoured forces in N. Africa in the Second World War.

Laaland, or Lolland (low land), Dan. is, to the S. of Sjælland at the S. entrance to the Great Belt, with an area of about 150 sq. m. It is difficult of access by reason of the surrounding shallows. The surface is very flat and the soil fertile. Cap. Maribo. Produces corn, hops, apples, sugar, hemp, etc. Pop. 87,100.

Laar, or Laer, Pieter van, see BAMBROCCIO, PETER DE LAERNE.

Labadie, Jean de (1610-74), Fr. mystic and Protestant reformer, b. at Bourgn-Genne. He was originally a Jesuit, but joined the Reformed Church in 1650. He became pastor at Middelburg in 1666, but was soon compelled to resign on account of the singularity of his views. His doctrine received the name of Labadism, and he founded a sect known as the Labadists, which disappeared about the middle of the eighteenth century. Among his works are *L'Empire du Saint-Esprit* and *Le Héraut du Grand Jésus*.

Labarum, name applied to the sacred military standard of the early Christian Rom. emperors. Constantine the Great was the first to use it, to commemorate his miraculous vision in 312. It had the form of a long gilded spear or staff, with a bar crossed at the top, from which hung a square purple cloth, richly jewelled.

On the point of the spear was the sacred monogram formed of the first two letters of the name of Christ, encircled by a golden border. The cross was substituted for the Rom. eagle.

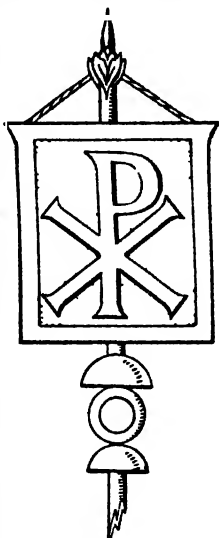
La Bassee, see BASSÉE, LA

Labé, Louise (1526-66), celebrated Fr. poetess, surnamed La Belle Cordière, b. at Lyons.

From an early age she had a love of adventure, and is said to have followed the Fr. Army in Roussillon, being known as Capt. Loys. On her return from soldiering she married a wealthy rope-maker, and gathered around her all the distinguished and literary society of Lyons.

She wrote some of the finest love poems in the Fr. language, and is the most famous Fr. female poet of the sixteenth century. Her poetical works were pub. in 1553, and she also wrote a prose work entitled *Débat de la folie et de l'amour*. See G. Boy *Recherches sur la vie et les œuvres de Louise Labé*, 1887, and study by Dorothy O'Connor, 1926.

Label, or Lambel (Fr. *lambeau*), mark of cadency in heraldry, indicating the eldest son of a family. It is a fillet from which hang three pendants, formerly placed at the top of the shield but now borne rather lower. The sons and daughters of the royal house of England bear their arms differenced by a *l.* of three points argent. The *l.* of the eldest son, the Prince of Wales, is plain, that of the younger princes variously charged. In Scotland differencing is more varied, and the



LABARUM

modern marks of cadency are less in use.

Labeo, Marcus Antistius (c. 50 B.C.-A.D. 18), famous Rom. jurist, whose father figured in the conspiracy against Julius Caesar, and after the battle of Philippi committed suicide. Entered public life at an early age as a member of the plebeian nobility, and before long rose to the praetorship. He was an ardent republican, and for that reason failed to find favour with Augustus, who did not promote him to the consulate in the year he should have held office. It is probable that the *Labeo* is inscribed of Horace was levelled against the jurist in order to please the emperor. L. devoted nearly all his time to the study of jurisprudence and is said to have written over 400 books. His most important literary work was the *Libri Posteriorum*. See van Eck, *De vita, moribus, et studiis M. Ant. Labeonis*, 1692.

Laberius, Decimus (c. 105-13 B.C.), Rom. knight, famed for his mimes or burlesque dramas; the chief of those who introduced the mimes into Lat. literature, and a man of learning and culture. At the command of Julius Caesar he appeared, in 45 B.C., in one of his own mimes in a public contest with the actor, Publius Syrus, and was courageous enough to point his satire against Caesar, who awarded the victory to Publius. Only fragments of his writings remain. See O. Ribbeck *Comicorum Latinorum reliquiae*, 1873.

Labiateæ, name given to an important order or family of dicotyledonous plants, consisting of about 3000 species which thrive in all parts of the world. The species are herbaceous or shrubby, the majority are land plants, but a few are found in marshes; they are characterised by their square stems and opposite decussate leaves as well as by the flower. Many are aromatic. The inflorescence is a verticillaster of bilabiate ringent flowers; the sepals and petals are each five in number and united, there are four didynamous and epipetalous stamens; the superior ovary consists of two united carpels and is quadrilocular; the fruit is a caecum. Some of the chief genera are *Lamium*, e.g. dead-nettle; *Salvia*, e.g. sage; *Mentha*, e.g. thyme.

Labiche, Eugène Marin (1815-88), Fr. dramatist. In 1835 he pub. a novel entitled *La Cef des champs*, and in the same year he made a double venture on the stage with a drama, *L'Avocat Louhet*, and a vaudeville, *Monsieur de Coislun ou l'homme infinitement poli*, both of which found popular favour. In 1851 appeared his farce, *Le Chapeau de paille d'Italie*, a fine specimen of Fr. burlesque, followed by *Embrassons-nous, Folleville* (1857); *Le Voyage de M. Perrichon* (1860); *La Cigale chez les journaux* (1876); and sev. others. See preface to the *Théâtre complet* (1878) by Emile Augier.

Labienus, Titus Atius, Rom. general, tribune of the plebs, 63 B.C. Under the consulate of Cicero he distinguished himself as Caesar's legate in the Gallic war, twice defeating the Treviri (54 B.C.), and taking part in the campaign against Verdingetorix. At the outbreak of the civil

war he sided with Pompey (49 B.C.) and displayed great cruelty in his treatment of Caesar's soldiers. He went to Africa after the defeat of Pharsalia, and finally fought against Caesar at Munda in Spain, where his troops were routed and he was killed.

Lablache, Luigi (1794-1858), Franco-It. operatic singer, b. at Naples, where he studied at the Conservatorium under Gentili and Valesi. At the age of twenty he had developed a magnificent bass voice, and made his first appearance at Naples in Floravanti's opera, *La Molinara*. In



LUIGI LABLACHE

1830 he appeared in London and Paris, meeting with great success and being engaged to appear annually in both these cities. He taught Queen Victoria singing for a time. On the operatic stage he was equally successful in tragic and comic parts, among his prin. roles being Leporello in *Don Giovanni* and Coliban in *Il Tempest*, though Don Bartolo in *Il Barbiere* is considered his best creation.

La Bostie, Etienne de (1530-63), Fr. writer, b. at Sarlat, Dordogne, France, and friend of Montaigne. His *Discours de la servitude volontaire*, or *Contr'un* (1548), a youthful criticism of tyrants, was written under the influence of revolutionary ideas which were current in the early part of the sixteenth century. In his *Requies*, Montaigne after La B.'s death tried to protect the memory of his friend as a model and peace-loving citizen, but even he implies that La B. was at heart a republican: 'oust mieux aymé estre nay à Venise qu'à Sarlat.'

Labor, Department of (U.S.A.), was created as a separate executive dept. by Act of Congress, March 4, 1913. It has jurisdiction over matters pertaining to

promoting the welfare of wage earners, improving their working conditions, and advancing their opportunities for profitable employment. It also directs investigation of matters pertaining to child welfare. The prin. bureaux and divisions of the dept. are Bureau of Labor Statistics, which collects statistics on all matters pertaining to labour, earnings, hours of labour, and moral welfare of wage earners; Children's Bureau, which investigates and reports on child life and welfare, including infantile mortality, juvenile courts, employment, etc., and administers the child-welfare services under the Social Security Act of 1935 and the provisions of the Fair Labor Standards Act of 1938 relating to child labour; Div. of Labor Standards, which develops labour standards in industrial practice, labour law, and labour legislation; Public Contracts Div., which administers the Walsh-Healey Act requiring gov. supply contracts to contain maximum hour, minimum wage, child labour, safety and health stipulations; United States Conciliation Service, which deals with industrial controversies; Wage and Hour Div., which enforces the wage and hour provisions of the Fair Labor Standards Act of 1938. Its duty is to see that employers engaged in interstate commerce or producing goods for interstate commerce conform to the wage and hour standards; and Women's Bureau, which is charged with formulating standards and policies for promoting the welfare of wage-earning women, increasing their efficiency, improving their working conditions, and advancing their opportunities for profitable employment.

Laborde, Henri François de, see DE LABORDE.

Labori, Fernand Gustave Gaston (1860-1917). Fr. advocate, b. at Rheims, where he was educated. Subsequently he spent two years in Germany and England. He was called to the Bar in 1884 and won celebrity in many famous cases, notably in his defence of Zola, accused of libelling the Fr. executive and army; in the Dreyfus appeal; and in the Humbert case (1903). He pub. the *Répertoire encyclopédique du droit français*, and was editor-in-chief of the *grande Revue*.

Labouchère, Henry Dupré (1831-1912). Eng. journalist and politician. Educated at Eton, he entered the diplomatic service in 1854, being attached to the embassies of St. Petersburg and Dresden. In 1864 he entered Parliament on the Liberal side, being one of Gladstone's most faithful supporters, and from 1867 to 1868 represented Middlesex; he was a member for Northampton from 1880 to 1905, when he retired. He was editor and proprietor of *Truth*, a society paper, founded in 1870, successful in the exposure of scandals of various natures. Also part proprietor of the *Daily News*, he contributed a series of letters to that paper during the siege of Paris in the Franco-Ger. war, as 'A Besieged Resident.' In 1896 was a member of the Jameson Raid Commission. See lives by A. L. Thorold, 1913, and E. Jerningham, 1913; also H. Pearson, *Labby*, new ed., 1946.

Labour. In the language of political economy L. is one of the two requisites of production, the other being, in Mill's words, 'appropriate natural objects.' In short, L. is the motive power of man upon the objects of the physical world, for, as Mill points out, all the L. of the world could not produce one particle of matter, e.g. to weave broadcloth is but to rearrange in a peculiar manner the particles of wool. In the space of a brief article it is impossible to expatiate on Jevons's thesis of the 'period of production' (as to which see It. G. Hawtrey's *Capital and Employment*, 1937), but it may here be noted that implicit in this thesis is the consequence that 'land and labour' or, more comprehensively, human effort and natural resources are the only original factors of production. L. is said to be either productive or unproductive. By the latter is meant that L. which does not augment the material wealth of the community. The former is further subdivided into directly and indirectly productive L., the former category comprising all that manual work which is especially employed on material processes, the latter 'nervous' or mental work. In common parlance the term appears to have become exclusively appropriated to manual work, a limitation of meaning which, taken with the fact that the Socialist schools of thought ordinarily use the term worker as a synonym for manual worker, has not only resulted in bringing into sharp political juxtaposition those who work with their hands and those who do not, but has also fostered a very general sympathy with the former on the ground that though they are the actual physical producers of utilities, they enjoy the minimum share of the profits accruing therefrom. The orthodox economist regards unproductive L. as L. that not only does not render the community richer in material products, but poorer by all that is consumed by the labourers while so employed; but, as Mill points out, unproductive L. may well be as useful as productive, or more so, even in point of permanent advantage, for not all utility can be measured by material embodiment. Economically the most striking feature of L. is the fact that as society progresses it becomes increasingly divided, a fact which really renders the actual operation of a worker on a single process a less valuable factor in the final result (see also DIVISION OF LABOUR). Co-operation of L. is, in the view of many economists, a still more effective agent in increasing the efficiency of L. than that of the div. of L. There are two kinds of co-operations of L.: (a) simple co-operation, or that which takes place when sev. persons assist each other in the same employment, and (b) complex co-operation, when they assist each other in different employments, e.g. one set of persons may sow cotton-seed, another set pack it, and other sets manuf. it into cloth. Karl Marx pointed out the dual nature of the L. of a community, the concrete L. which creates 'use-values' and counts qualitatively, being work, while the abstract L. which creates value and

counts quantitatively is L. This formula leads to his analysis of the 'errors' of the orthodox economists and his fundamental axiom that the economic structure of society is, and has always been, the basis upon which everything else rests.

As regards technological progress in relation to L., it is to be noted that, for any product, as cost declines and output is increased, demand must eventually become inelastic, and cost-saving inventions tend ultimately to displace L. Only if the new process offers such attractive prospects of gain that it invites speculative borrowing and supplements the resources of the investment market with a creation of credit, will additional employment be given. The adaptability of L. to new occupations and its willingness to move into them depend on circumstances. But experience in wartime shows that an enormous amount of skilled and semi-skilled L. is rapidly made available for the purposes of war industries; and even under more normal conditions every new industry and in great part any rapidly expanding industry must be supplied with L. by transfer from other industries. On the relation of the monetary factor to the demand for L., see A. C. Pigou, *Theory of Unemployment*, 1933.

Labour, or Farm, Colonies existed, mainly on the Continent, for the purpose of reforming or punishing vagrants. The more important L. C. on the Continent were those in Holland, Belgium, Germany, and Switzerland. In 1818 Gen. van den Bosch estab. in Holland under royal patronage a charitable organization, 'the Society of Beneficence,' for the purpose of employing the poor on the land. Colonies were acquired by the society in Holland, and it estab. others at Wortel and Merxplas in Belgium. The Dutch L. C. were divided into (a) free colonies for indigent persons, and (b) beggar colonies for the repression of mendicancy. The scheme was not successful, as the original entrants remained in the colony and few fresh cases were received. The beggar colonies were intended for the compulsory detention of vagrants. The chief of these colonies were at Ommerschans, Veenhuizen, and Merxplas. The colonies were penal rather than reformatory, and a severe discipline was maintained by the society.

In Belgium, under the law of Nov. 27, 1891, state institutions of two kinds were estab.: (1) *Dépôts de Mendicité*, and (2) *Maisons de Refuge*. The former were intended for the reception of able-bodied professional beggars, vagrants, and certain other classes of people, such as inebriates and persons convicted of immoral offences. The chief depot was at Merxplas. The intention of the Act was to treat habitual vagrants and beggars not as criminals requiring punishment, but pathologically, as persons requiring treatment on account of their mode of life. The work of the Merxplas colony consisted of land reclamation, farming, and the manuf. of all kinds of articles required in the colony itself. The purpose of a *Maison de Refuge* was to receive men too

old or infirm to work, or who through want of work or misfortune had been driven to begging or vagrancy. It was in most respects similar to the Eng. workhouse. The chief *Maison de Refuge* was at Hoogstraeten, the Wortel section of that institution being reserved for able-bodied colonists. There was also a depot and refuge for women at Brugos on similar lines. All the L. C. of Belgium were subject to state inspection and control.

In Germany there were some thirty L. C. under the management of the Labour Colony Central Board, with accommodation for about 4000 persons. The system was less developed than in Belgium or Holland, and effected less practical good, because there was no compulsion to remain in the colony, and admission was voluntary. The colonies were supported out of grants by the prov. and municipal authorities and voluntary subscriptions. Most of the colonies were agric., but there were some industrial colonies such as those at Berlin and Magdeburg. The bulk of the inmates appear to have been unemployed workmen and tramps. Habitual vagrants and persons who neglected to maintain themselves were far more effectively dealt with in the *Arbeitshäuser* (literally work-houses) which corresponded not to the Eng. workhouse, but to the forced labour farms of Switzerland and the compulsory L. C. of Belgium and Holland. They were penal in character and intended for the detention of persons after imprisonment for certain specified offences.

In Switzerland from 1906 there were both voluntary and compulsory L. C. The voluntary numbered only three and were managed by philanthropic societies. Nearly every canton had a compulsory colony or forced labour farm, managed by a cantonal council, the federal gov. neither taking any share in the management nor inspecting the farms.

In England the closest approach to the continental forced L. C. were the old houses of correction, but at the present time the convict estab. alone resemble such colonies in the fact that a great deal of convict labour is carried on. There are, however, certain institutions estab. by charitable agencies for vagrants. The largest of these latter institutions is the farm colony of the Salvation Army at Hadleigh in Essex, with accommodation for sev. hundred inmates. The Eng. colonies differed from the continental in that there was no power of compulsory detention, and also in the fact that they were not primarily intended for the vagrant class. The Majority Report of the Poor Law Commission recommended the institution of labour penal colonies for such persons who were unemployed and vagrants who accepted relief while refusing to fulfil the conditions of work attached to such assistance. The recommendation was not proceeded with.

The Borstal institutions (see BORSTAL) are in some respects forced labour colonies. Their undoubted superiority to adult continental colonies is partly due to the introduction of the recognized courses of the Ministry of Labour for trade training.

See L. Twining, *Workhouses and Women's Work*, 1858; C. J. Hibdon Turner, *History of Vagrants and Vagrancy*, 1887; *Board of Trade Report*, 1904; W. H. Daulson, *Vagrancy Problem*, 1910; *Report of the Departmental Committee on Vagrancy*, 1926, and *Minutes of Evidence taken before the Committee*, and *Appendices*; J. Flynn, *Tramping with Tramps*, 1900; Weston-Thomas, *Report on the Methods of dealing with Vagrancy in Switzerland*; and J. S. Hoyland, *Digging with the Unemployed*, 1934.

Labour Day, legal holiday in all the states and territories of Canada and the U.S.A. which is observed on the first Monday in Sept. It is observed by labour processions and organisations which parade the streets and hold meetings, and all banks and gov. offices are closed. Outside the U.S.A., Canada, and Italy L. D., or the day generally fixed on by all Socialist and Labour organisations for a public holiday, is celebrated on May 1st. The reason for choosing May Day is very obscure, though attempts have been made to identify L. D. with the old May Day festivities.

Labour Disputes between employers and workers arise chiefly from dissatisfaction of the workers with their conditions of employment, or from an attempt on the part of the employers either to reduce wages or to increase hours. A dispute originating in one trade sometimes spreads to others whose members have no grievance, but who 'come out' in sympathy with their fellows. When the stoppage of work is the initiative of the workers, a strike results, but where the employers close their works upon the refusal of their employees to submit to unpopular wages the stoppage is called a 'lock-out.' Disputes are settled by arbitration, when a third party is mutually appointed to decide the issue, or by conciliation (q.v.), where discussion under an impartial chairman takes place, or by the final defeat through lack of resources of one of the disputants. The gov. sometimes intervenes where the stoppage threatens to endanger civil welfare. The possibility of direct action (q.v.) involving national strikes took place in the years immediately preceding the First World War after the national coal strike of 1912, when a minimum wage demand was made. Conciliation proved fruitless, and the Prime Minister, Asquith, introduced the Coal Mines (Minimum Wage) Act, by which minimum wage boards were set up. Railway workers in 1907 declared a strike on the question of recognition of their union. Lloyd George intervened, and a railway conciliation scheme was set up for the ventilation of further disputes. The Dublin strike, led by James Larkin of the Irish Transport Workers' Union, after a bitter struggle ended in its collapse consequent upon the starvation of the strikers. During the First World War the outstanding dispute was that of the Clyde workers, who demanded an increase in wages because of the increased cost of living. Gov. intervention took place, and the increase

was secured. Thereafter munition workers were controlled by the Munitions of War Act of 1915, and compulsory arbitration was applied to all future disputes. Under the chairmanship of J. H. Whitley, an attempt was made to reorganise the relationship between employer and workers by co-operation through Standing Joint Industrial Councils. The scheme is known



Topical Press

THE GENERAL STRIKE, 1926

Police escort a petrol lorry through a road in Southwark, London

as 'Whitleyism,' and has since been found to be inadequate. In 1921 a great lock-out of miners occurred, which ended in the defeat of the miners, though the famous Sankey Coal Commission was appointed. Its recommendations, which included nationalisation of coal-mines, were favourable to the miners, but were not acted upon by the gov. until after the Second World War. The great strike of 1926 is dealt with in detail under STRIKE, GENERAL (1926). The outcome of this strike was the passing of the Trade Disputes and Trade Unions Act, 1927, which declared general and sympathetic strikes unlawful, restricted picketing, and made the law courts the arbiters of legality or

illegality of strike activities. The 'contracting-in clause' stipulated that only those trade unionists might contribute to the political funds of the unions (that is to the fund of the Labour party) who declare in writing their willingness to be levied for that purpose. The T.U.C. repeatedly pressed for the amendment of this Act, but in 1940 Neville Chamberlain (the Prime Minister) pointed out to a T.U.C. deputation that it would be impracticable to introduce amending legislation during wartime. The Labour Gov., which came into power in 1945, passed a two-clause Act repealing the Act of 1927, which received the royal assent on May 22, 1946. During 1929, among a number of smaller disputes, the most extensive was that of the master cotton spinners, 355,000 workers being affected. After three months a specially appointed board secured half the demanded increase of wages. 'Unofficial' strikes became rather prevalent in 1913, but though they were not important individually they seemed to indicate that something was amiss with industrial relations. Some of these strikes were deliberately provoked by employers from ulterior motives such as to procure an alteration of contracts, while others were organised for political reasons and in order to impede the nation's war effort. But considering the difficulties that had arisen from the transference of labour and the entry into industry of new people, who were unaccustomed to discipline and to trade union negotiations, it was perhaps remarkable that there had been so few disputes up to that time. But public confidence in the ultimate issue of the war undoubtedly emboldened some to launch unofficial strikes. In 1944 there was discontent in the minefields, whose workers exposed themselves to the charge of placing their own sectional interests before the national welfare. On Jan. 22 the National Reference Tribunal for the coal-mining industry produced its wages award, but the miners rejected it and many ceased work, the chief centre of unrest being S. Wales, where 75,000 men were on strike by March 8, 1944; and by the time they had returned to work the disputes had caused a loss of 800,000 tons of output. It was always difficult to decide whether, for securing the smooth working of industry in wartime, it was necessary to introduce military control or whether the joint industrial relations machinery could be relied upon. The General Council of the T.U.C. issued a statement in April 1944, pointing out that unauthorised stoppages of work had gravely impeded the preparations for a concerted attack on Nazi-fortified Europe and if continued might produce a national disaster and imperil the victory of the allied cause. As a precaution against the outbreak of industrial trouble the minister of labour, after consultation with the T.U.C. and the Brit. Employers' Confederation, issued (April 18) a new defence regulation (12a), giving him strong powers for dealing with persons responsible for inciting strikes or lock-outs which interfered with essential services. This

was aimed, however, solely at promoters of so-called 'unofficial' strikes. A petty dispute, which broke out on Sept. 28, 1945, at Birkenhead docks, led to an extended strike of dock workers in most of the large ports. This strike was entirely unofficial, and towards the end of the month 40,000 were on strike and 20,000 soldiers had taken their places. The refusal of the minister of labour to intervene until the men went back to work proved effective, and the men returned to work, accepting, after prolonged negotiations, terms very little higher than those offered *ab initio* by the employers. In the period immediately succeeding the end of the war there were numerous demands from different trades for wage increases, sometimes leading to strikes, official or unofficial, and mostly the latter. Thus in Oct. 1947, 21,000 Scottish miners went on strike but resumed work in a week after the National Coal Board and the miners' leaders had agreed on an increase of 15s. weekly in the minimum wage of underground workers and of 10s. a week for surface workers. The T.U.C. General Council, however, expressed (Feb. 5) general agreement with the declared aim of the Lab. Gov.'s wages policy to avoid inflation, and the T.U.C. executive, by 5,421,000 to 2,032,000 votes, endorsed the T.U.C. council's recommendation to support the gov.'s policy on wages and prices. But there were many more strikes notwithstanding this co-operative attitude of the T.U.C. Most unrest prevailed among the dockers, and on June 11, 1948, an unofficial strike began in the Port of London owing to the suspension of eleven men after a dispute over payment for handling 'dirty cargo'. During the fortnight of the strike in the London docks service men unloaded foodstuffs. This had its sequel in 1949 when 9000 men of the Port of London went on strike in a fight which was represented by their unofficial leaders as one to 'resist the employment of blackleg labour.' Mr. Isaacs, labour minister, in the House of Commons described the dockers' claim that the stoppage was in fact a lock-out as nothing but a Communist manoeuvre, and emphasised that the men were acting in breach of their agreements. The continuance of the strike and an increase in the numbers of men involved forced the gov. to employ troops for loading and unloading cargo, and the king declared a state of emergency on June 11. *See also* INDUSTRIAL RELATIONS.

United States of America.—Labour disputes in America are examined by a Board of Mediation formed under an Act of Congress passed in 1926. Individual unions appear to have freedom of action, and most disputes are settled by the states concerned. Between 1921 and 1928 stoppages involving 4,500,000 workers were settled by the Congress Board of Mediation, under whose powers the secretary of labour is authorised either to mediate himself or to appoint special commissioners. Mediation boards have also been set up by individual states, and disputes are usually settled either by conciliation

or voluntary arbitration. In the five-year period 1935-40 strikes averaged about 2875 annually: 1936, 2172 strikes, involving 788,000 workers; 1937, 4740 strikes, 1,860,000 workers; 1938, 2772 strikes, 688,000 workers; 1939, 2613 strikes, 1,170,000 workers; 1940, 2088 strikes, 491,000 workers. But when the threat of war became obvious, the ship-building and other strikes, which occurred about the time of the presidential election, were soon settled and the return of Roosevelt for his third term indicated that Amer. labour appreciated the fact that it was the Democratic gov. that had guaranteed collective bargaining and the minimum wage and fixed a maximum work week of forty hours.

The best known example of compulsory arbitration is the system in New Zealand, where such a scheme has existed since 1897. Recourse must be made to a specially appointed conciliation board under an impartial chairman, who, on failure to reach an agreement, refers the dispute to the court. New S. Wales and Victoria have similar systems. See Askwith, *Industrial Disputes*, 1911; G. D. H. Cole, *Short History of British Working-class Movement*, 1927; R. Rayner, *Story of Trade Unionism*, 1929; and Margaret Cole, *Makers of the Labour Movement*, 1948.

Labourdonnais, Bertrand François de, Count Mahe (1699-1755), Fr. naval commander, b. at St. Malo. He went to sea at an early age, and in 1718 entered the service of the Fr. India Company. In 1724 he attained the rank of captain and displayed great bravery at the capture of Mahe, adding the name of the fr. to his own. In 1735 he served as governor of the Ile de France and Bourbon, an office he continued to hold for five years. At the end of this period he began a conflict with Britain for the naval sovereignty of the Indies and captured Madras in 1746. He was accused by his general, Duplex, of peculation and maladministration of affairs in India, arrested, and imprisoned for two years. He wrote *Traité de la manœuvre des vaisseaux* (1723), and left valuable memoirs, pub. by his grandson.

Labourers and Labouring Classes. The definition of a labourer, so far as legal rights are concerned, is of but little importance, and decisions involving a definition relate almost exclusively to the liability of employers for accidents under the Employers' and Workmen's Act, 1875, the Employers' Liability Act, 1880, and the Workmen's Compensation Acts (now repealed and re-enacted as the National Insurance (Industrial Injuries) Act, 1946). The accepted definition is 'a man who digs and does other work of that kind with his hands.' But a motor-omnibus driver has been held to be a manual labourer within the Act of 1880. The term labourer is used in the Sunday Observance Act, 1877, in section 1, which forbids any 'tradesman, artificer, workman, or labourer' to exercise his 'ordinary calling upon the Lord's Day,' but the few decisions on that Act do not assist one to arrive at the meaning, for it has even been judicially doubted whether an 'agricul-

tural labourer' is a 'labourer' within the meaning of the Act. The term is of no importance as regards the Housing Acts, for it has long given place to 'working classes,' which latter phrase has been judicially defined to mean 'the class of persons who ordinarily live in such a state and condition of life that overcrowding was likely to take place,' and by statute (Housing Act of 1903) as including 'mechanics, artisans, labourers, and others working for wages,' and also others working at some 'trade or handicraft whose income does not exceed on an average 30s. a week.' Politically if the meaning of the terms may be inferred from the persons represented in Parliament by a Labour M.P. it may be said that all are labourers who either belong to a trade union or could belong to one if they chose.

Labourers, Statute of. At the Conquest agric. services were paid for in kind, the labourer or villein being really a serf attached to the soil. After these services were commuted for low money payments the better-class villeins became copyhold tenants, while the rest gradually obtained better terms. The Black Death, however, caused a great dearth of agric. labour and wages went up, with the result that the Ordinance (see LEGISLATION AND LEGISLATIVE PROCEEDINGS) of Labourers was issued in 1349 and re-enacted in 1351 as the S. of L., with the object of securing an adequate supply of field labour at the wages current prior to the plague. It provided that able-bodied persons should work in their own dist. at the accustomed rate of wages, while those who gave alms to 'sturdy beggars' should be punished with imprisonment. The consequence, however, was the rise of a class of really free labourers, in spite of the low rate of wages. See H. St. C. Feilden, *A Short Constitutional History of England*, 1899.

Labour Exchanges, see EMPLOYMENT EXCHANGES.

Labour, Hours and Wages of. Ever since workers have been organised, agitation to restrict hours of labour has been a prominent feature of industrial disputes. During the latter part of the nineteenth century, Robert Owen (q.v.) led a movement for an Eng. eight-hour day. Since 1921 a forty-eight-hour week has been enforced in many trades in most countries. These restrictions cover either all workers, as in France and Spain, or certain trades, as in Great Britain under various Factory Acts (see FACTORY LEGISLATION). The Brit. Gov. did not favour the draft convention of the International Labour Conference in 1937 for a forty-hour week for the textile industry, the policy of the Brit. Gov. having always been to build up in industry a vast machinery of collective bargaining between employers and employed, and a reduction of hours to forty would probably lead to reduced wages and a rise in costs of production such as would increase unemployment. In Australia agreements as to hours of labour are reached by arbitration, while in Germany (before the Nazi regime) mutual agreements as to hours of labour were reached by collective bargaining between the

workers and their employers. In Brit. coal-mines hours are regulated by the Coal Mines Regulation Act of 1908, but a new Mines Bill was put before the House of Commons in 1931 embodying a continuance of the seven-and-a-half-hour day pending ratification of the draft convention of the Geneva Convention. In July 1936 the conference of the Mineworkers' Federation approved a motion for a six-hour day in order to absorb the unemployed within the industry. The Shops Act of 1912 and the Trade Boards Act ensure a forty-eight-hour week generally.

In the U.S.A. most states have an eight-hour day. A threat of a railway strike in 1916 resulted in an eight-hour day for railways under the Adamson Act. In 1927 an Act was passed in New York state enforcing a forty-eight-hour week. Fifteen states have a maximum of ten hours a day, while many well-organised workers have secured a five-and-a-half-day week of forty-four hours. In 1937 the United Mine Workers, led by John Lewis, demanded a six-hour day and a five-day week in place of the existing working week of thirty-five hours. Legislation, following recommendations of the International Labour Organisation, was in operation, before the Second World War, in Italy, Belgium, Czechoslovakia, India, Bulgaria, and Chile; Austria and France had made conditional agreements.

Wages.—The term wages is usually confined to the pay of workers in manual trades, and they are paid weekly. Economic consideration of wages is involved and intricate. Wages must have some relation to the cost of living, and standards vary in different localities. Organisation into trade unions gave workers power to improve their wage standards and most industrial disputes (see LABOUR DISPUTES) are mainly concerned with wage adjustments.

Statistics.—The International Labour Organisation of the United Nations issues comprehensive tables of movements of wages in most countries. In the case of France and the U.S.A. earnings are variously calculated hourly, daily, and weekly, and produce severally results which differ widely. But broadly the following table shows money wages and real wages for the chief manufacturing countries as they were in 1937, the figures being index numbers and the rates for 1929 being represented by 100:

	Money Wages	Real Wages
Great Britain (weekly rates)	104	113
France (hourly rates)	146	134
Germany (hourly rates)	79	105
Italy (hourly earnings)	101	105
Russia (monthly wage)	315	c. 320
Sweden (hourly earnings)	103	108
United States (weekly earnings)	95	107
Japan (daily earnings)	93	93

Hours of labour in Great Britain have altered but little in recent years (apart, of course, from conditions during the Second World War). The 48-hour week, estab. in

most industries soon after the First World War, was, up to 1940, still in operation in most factories. In 1916 there was a movement for the reduction of normal weekly hours of labour. It was accentuated in 1917; in 1948 there was comparatively little continued movement in that direction, and by 1949 it was almost negligible. Over this period the reduced basic normal weekly rate was reduced from 48 or 47 hrs. to 44, the average difference for many millions of workers being 3½ hrs. a week. It may be mentioned that the actual hours worked did not fall to anything like the same extent as the normal weekly hours; thus in early 1917 the average hours of men were 46½; in Oct. 1948 they were 46½; and in June 1947 one out of every ten workers in the manufacturing industries was working at least 7 hrs. overtime. The working of extensive overtime, notably in armament works, in Fr. factories nullified the operation of the 40-hour system introduced in 1936. The 40-hour week was very widely applied in the U.S.A., but transport workers generally worked 44 to 48 hrs. The Brit. dominions' week was uniformly 44 hrs., excepting in New Zealand, where the Labour Gov. introduced a 40-hour week. European industrialised countries (other than France) generally worked a 48-hour week. In the Balkans and S.E. Europe most working weeks were from 48 to 50 hrs. Much longer periods obtained in the Far E., especially in Japan.

See Labour Research Committee, *Wages, Prices, and Profits*, 1922; Bulletin of International Labour Office, *Statistical Tables*; and G. D. H. Cole, *A Short History of the British Working-class Movement*, 1927.

Labour Legislation is the outcome of the need to regulate conditions of contract between employers and workers and to secure for the worker conditions in accord with reasonable standards of remuneration, health, and safety. Until the advent of machine production in the eighteenth century there were protective regulations enforced by the craft guilds (*q.v.*) in co-operation with the gov. Machinery needed an immediate supply of cheap labour, and conditions rapidly became worse. Workers as a consequence combined to demand more reasonable terms, with the result that in 1799 the Combination Bill was passed, which threatened any worker with imprisonment if he attempted to combine with his fellows for the purpose of increasing his wages. Lord Shaftsbury (*q.v.*) took up the cause of children in factories, and in addition procured in 1812 a Bill to abolish the use of female and child labour in mines. In 1867 the Employers and Workmen Bill was passed, which removed concerted stoppages of work from the list of criminal actions. During the first ten years of the twentieth century the chief measures passed affecting labour questions were the Workmen's Compensation Act (*q.v.*), which granted compensation to all manual and many non-manual workers; the Unemployed Workmen Act of 1905; the Coal Mines Eight Hours Act of 1908, which ended a long struggle on the part of the

miners; the Trade Boards Act of 1909, resulting from agitations to combat sweated labour; the Labour Exchanges Act, the precursor of Unemployment Insurance, and a remodelling of the Fair Wages Clause. Then followed the Coal Mines Regulation Act and the National Insurance Act (*q.v.*). The Shops Act secured the long-wished half-holiday to tradesmen's assistants in 1912, in which year was also passed the Coal Mines

of Nations dealt with legislation to govern hours of labour. A recommendation to adopt universally a forty-eight-hour week was not ratified by the Brit. Gov. on account of the too wide scope in a single measure. The miners' dispute of 1920 resulted in the passing of the Emergency Powers Act, which enabled the gov. to take necessary steps to enforce peace and maintenance of essential supplies and transport. The Act was applied during the



Weaver Smith Ltd.

CHILDREN IN MINES: A SPUR TO LABOUR LEGISLATION
Lord Shaftesbury sees children working in coal-mines, 1840.

(Minimum Wage) Act, a result of the national strike. The First World War period brought its own special problems, to meet which the gov. passed the Munitions of War Act in 1915, by which compulsory arbitration was to be applied to the settlement of industrial disputes in the industries covered by the Act, which was repealed in 1918. As an attempt to keep pace with the increased cost of living, the Trade Boards Act of 1918 extended the Act of 1909, bringing many millions of workers into the protective scope of a legalised minimum wage. In the same year the Wages (Temporary Regulation) Act was passed to cope with the situation created by the change from war to peace conditions. The Act was passed originally for six months, but certain sections were continued under the Industrial Courts Act of 1919, which stabilised the existing rates of wages as a minimum until 1920. Many of the conventions drafted by the International Labour Conference of the League

disputes of 1921, 1926, and 1949. Following the General Strike (*see* STRIKE, THE GENERAL) the gov. repealed the Seven Hours Act of 1919, and the Trade Disputes and Trade Unions Act of 1927 proclaimed illegal general strikes, sympathetic strikes, and most forms of 'picketing.' Labour conditions in the two decades following the First World War seriously deteriorated in the N. of England in what became scheduled as special areas; and towards the close of 1934 an Act was passed to provide measures which, it was hoped, would facilitate the economic development and social improvement of these distressed areas. Training schemes were also part of the general plans for recovery. But it is doubtful whether these statutory provisions would ever have had any marked effect on the appalling total of the unemployed. It was the conditions imposed by the Second World War that solved that problem.

The war closed the ranks of the people

and, while many trades — engineers, miners, shop assistants, etc.—demanded and obtained higher rates of pay in 1939–1940 as a consequence of the increased cost of living, the peace-time advantages in hours and other conditions were sacrificed to some extent to the national needs. In May 1940 (after the Fr. resistance had collapsed) the Employers' Confederation and T.U.C. General Council both agreed to the minister of labour's appeal to suspend rules and regulations so as to throw their whole force into the national effort. But the National Union of Railwaymen in July 1940 demanded the repeal of the Trades Disputes Act, and the T.U.C., a few months later, urged the removal of restrictions imposed by the Act on unions. The Trades Disputes Act of 1927 was repealed by the Labour Gov. in 1946. See also FACTORY LEGISLATION; SHOPS ACTS; TRADE UNIONS; WORKMEN'S COMPENSATION. See H. Cresser and A. Henderson, *Industrial Law*, 1924; G. D. H. Cole, *A Short History of the British Working-class Movement*, 3 vols., 1927, and *Organised Labour*, 1928; C. R. Fay, *Great Britain from Adam Smith to Present Day*, 1928; *International Labour Review* (monthly), Geneva; *Legislature Series of the International Labour Office*, Geneva. See also the official pubs. of Eng. and U.S. Govts.

Labour, Ministry of. The M. of L. was set up by Lloyd George in 1916 to deal with questions of labour administration, wage disputes, and awards, pensions, insurance, and all affairs hitherto under the direction of the Labour Dept. or the Board of Trade. The first minister was John Hodge, and the ministry was formed partly to ensure the co-operation of the Labour party in Lloyd George's Coalition Cabinet. Its efficiency, however, was hampered to some degree by the exemption from the authority of the new ministry of other special ministries, such as the Ministry of Munitions, which were allowed to appoint separate committees to deal with their individual labour organisation problems. Post-war difficulties and reconstruction programmes challenged every resource of the ministry, and the wide powers given to it later soon proved to be entirely justified. Its activities include the Industrial Court, which, through an umpire and referees, judges industrial claims and makes awards; unemployment and insurance, administered through labour exchanges, friendly societies, and trade unions; employment and training of juvenile workers; industrial relations, and the pub. of statistics upon every topic of labour concern. A special dept. works in connection with the International Labour Organisation of the League of Nations. The headquarters of the ministry are at Montagu House, Whitehall.

Labour Office, International, see INTERNATIONAL LABOUR ORGANISATION.

Labour Party. The name of a political organisation to be found in modern times in many countries which, broadly speaking, represents, or claims to represent, the interests and aspirations of Labour (i.e. the working class) as against

the interests and ideals of Capital (i.e. the employing, or master, class). The L. P. in Great Britain, which must be carefully distinguished from the Independent L. P. (the I.L.P.) (q.v.), is a purely Socialist body, consisting of trade unions, co-operative societies, and various Socialist bodies banded together to secure political representation. The first secretary of the L. P. was James Ramsay MacDonald (q.v.), and he held this position till 1911, when, on his becoming chairman of the party in the House of Commons, he was succeeded by Arthur Henderson (the present chairman is James Griffiths, M.P.). For the first six years of its existence the L. P. was known as the Labour Representation Committee (the L.R.C.). When formed in 1900 the membership was 375,000, and it succeeded in returning two members to the Commons in that year. As a parl. force it dates from the 1906 election, when its membership was 921,000, and when out of fifty parl. candidates twenty-nine were elected. The L. P. by its constitution is independent of all other political parties. The L. P. has no 'leader.' The National Executive Committee is elected by the ann. conference, and the committee chooses a chairman for the year. The chairman is not necessarily an M.P.; he is not normally re-elected and there is no suggestion that he has any kind of moral claim to become Prime Minister or even to hold office of any kind. The Labour members of Parliament—who are organised into the parl. L. P.—elect a chairman of the parl. L. P., or leader, every session and he is usually re-elected. He has some considerable claim to appointment as Prime Minister—thus Ramsay MacDonald became Premier twice (his later terms were as Prime Minister of National Govts.). It was made clear when Lansbury was elected in 1931, however, and still more clear when Mr. Attlee was elected in 1935, that the parl. L. P. reserved its full liberty of action to elect whom it pleased if the party secured a majority and thus to indicate to the king who was desired as Premier. The L. P. strongly supported the First World War, and its chairman, Arthur Henderson, with two other L. P. representatives, was included in the Coalition Gov. of 1915, and, when the new Coalition Gov. of 1916 was formed, Henderson continued in the Cabinet until June 1917, when he resigned upon his return from a visit to Russia. His place was taken by G. N. Barnes. At the conclusion of the armistice the L. P. withdrew its support from the gov. Up to 1918 it had been practically a federation of trade unions and Socialist societies, but the war had changed the national outlook, and in order to keep pace with the extended organisation of the trade unions, as well as to widen its field of recruitment, the L. P. revised its constitution, admitting individual members of all social grades. It increased its membership so considerably as a result that by 1924 it had achieved a brief period in office, with Ramsay MacDonald as

Prime Minister. Dependence upon Liberal support, which was never reliable, caused its defeat after ten months as a gov. The coal situation at this time brought the Miners' Federation into prominence, and this trade union dominated L. P. influence after the unsuccessful issue of the lock-out in 1921. Meanwhile the party had begun to realise the significance of municipal elections, and an attack was accordingly made upon municipal seats throughout the country, especially in mining and industrial areas, with marked success. Its membership in 1920 was well over 8,000,000, though this figure fell to 5,500,000 during the trade slump which followed. This figure, however, was more than twice the number before the First World War. Additional support was coming in from the co-operative movement, with its 1,000,000 members of 1924. During its short term of office the Labour Gov. passed four measures of importance, the Wheatley Housing Act, the Minimum Agricultural Wages Act, a measure increasing the range of old-age pensions, and an amendment to Unemployment Insurance. It granted formal recognition to the gov. of Soviet Russia, and carried through the plan for the stabilisation of Ger. finance under allied control, known as the Dawes plan. In the election of Oct. the party lost forty-two seats, and its supporters, particularly the L.L.P., became impatient for 'Socialism in our time.' As a result there appeared within the party a left wing opposition. In 1926 the General Strike (q.v.) severely tested the organisation of the L. P. and indeed the whole Labour movement was shaken. The storm, however, was weathered so successfully that the party found itself again in power in 1929, when it secured the return of 287 members. Ramsay MacDonald again became Prime Minister, and continued in office, even though, in Aug. 1931, the Labour Gov. resigned and was replaced by a National Gov.

The L. P. has had to demonstrate that it is 'constitutional' and not 'revolutionary,' and therefore it has been orthodox in its action, and indeed more so than any other party since the Reform Act of 1832. The conception of opposition for its own sake was abandoned. The majority principle is with the L. P. almost an article of faith; and the so-called 'discipline' of the party is simply a firm adherence to the principle of majority rule. It has been said that the L. P. is more of a 'class' party than the Liberal party was under Gladstone or Asquith. This is true in the sense that the proportion of income-tax payers in the L. P. was for long less than it was in the pre-1914 Liberal party (the incidence of income tax to-day has completely changed the situation); but it is not true that the L. P. has ever secured a majority of the wage earners. Though two-thirds of the electorate are wage earners (i.e. below the upper-age limit for unemployment insurance) and their dependants, the L. P. until 1945 never secured more than 37 per cent of the votes cast; and except in the election of 1918 the balance

between votes cast for the gov. and votes cast for the opposition has been very constant since 1885.

The rise of the L. P. shows that it is possible to achieve a large measure of support even with a completely hostile press. But the L. P. makes up for this deficiency by maintaining close contacts with the trade unions, which, in their turn, have sev. complete series of national and local organisations. The L. P. differs from the Conservative party in opposition because it usually accepts gov. proposals, especially in social legislation, as instalments of its own policy. Usually it does not wish to obstruct because it wants the legislation to be passed; it may and indeed usually objects to some of the proposals, but rarely to all of them; and its main cause of complaint is that they do not go far enough. It may be said that during the earlier months of the Second World War the fact that Labour was in opposition militated against a whole-hearted war effort by Britain. While the L. P. by no means disapproved of Brit. policy—indeed it was hotly opposed to Fascism or Nazism in all their forms—it had its own views on equality of sacrifice, profiteering, food distribution, exemptions from conscription, and so forth. When Winston Churchill succeeded Neville Chamberlain as Prime Minister in 1940 he at once formed a Cabinet largely composed of leading Labour M.P.s, and the price of their support may be inferred from the character of the emergency legislation, which empowered the new gov. to control persons and property unreservedly and increased the excess profits tax from 60 to 100 per cent.

The representative character of the L. P. is shown by the fact that a great variety of interests are represented—architects and engineers, the medical and legal professions, shipping, finance, the fighting services—though by far the largest group of members, comprising more than all the others combined, is the 'workers' group, which owes its representation almost entirely to the rise of the L. P.

In the general election of 1935 the votes cast for the L. P. numbered 8,325,260 as against 10,488,626 Conservative votes, 1,377,962 Liberal votes, and 866,624 Liberal National. In the general election of 1945 the figures for the chief parties were: Labour, 11,985,733; Conservative, 8,693,858; Liberal, 2,253,197; Liberal National, 759,884. In 1935 the L. P. had approximately 154 representatives in the Commons as against 387 Conservative members; in 1945 the positions were reversed, the L. P. having 393 members and the Conservative party only 189, the Labour majority in the House in 1945 being about 186.

See G. D. H. Cole *The World of Labour, 1918*, and *Short History of the British Working-class Movement*, vol. iii., 1927; C. R. Fay, *Great Britain from Adam Smith to the Present Day*, 1923; R. M. Rayner, *The Story of Trade Unionism, 1790-1926*, 1929; C. R. Attlee, *The Labour Party in Perspective*, 1937; Margaret Cole,

Makers of the Labour Movement, 1948; and F. Williams' Fifty Years' March of the Labour Party 1949.

La Bouverie, Belgian tn., situated in Hainaut 5 m S W of Mons. It has important coal-mines and manufs of Davy lamps. Pop. 7600.

Labrador, dependency of the prov of Newfoundland Canada, forming the most easterly part of the N Amer continent and extending from Blanc Sablon at the S W entrance of the straits of Belle Isle

St John's Newfoundland so far as prov relations are concerned.

L., regarded as part of Vinland or Wine-land (*qv*) was probably visited by the Vikings in the tenth or eleventh centuries. Many traces of stone houses and stone protected tombs, such as the Norsemen built and which the indigenous Eskimo never did have been found on the L. coast. According to Norse sagas the voyages of Bishop Erik Guupsson and his sons in the early twelfth century concern



High Commissioner for Canada

LABRADOR INDIAN HARBOUR

to Cape Chidley at the F entrance of Hudson's Strait. The name L. is also applied to the peninsula of which L. proper forms merely a coastal strip (1100 m in length) with an area of about 110,000 sq m. The greater part of the peninsula representing the ter. of Ungava (351,780 sq m) was annexed by Quebec in 1912 under the Quebec Boundaries Extension Act. By the decision of the Privy Council (March 1, 1927), settling the boundary between Canada and Newfoundland in L., the Atlantic watershed of the L. peninsula, including the basin of the Hamilton or Grand R. was awarded to Newfoundland, the remainder of the peninsula being awarded to the dominion. The accession of Newfoundland to the dominion of Canada (March 31, 1949) brings all L. automatically under the confederation, but the dependency or coastal strip of L. or L. proper is still administered from

L., but these are all songs glorifying the deeds of chiefs rather than satisfactory evidence of visits to the coast of what may have been L. It is commonly supposed that John Cabot sev centuries later sighted the coast and even visited it though there exist no real records of his voyages. Cortereal the Portuguese navigator, visited the country only twelve years after Cabot's voyage of 1498. Cortereal states that in Hamilton Inlet he found an old Venetian sword, some gold earrings and other 'small trink' which Cabot had very probably traded with the Indians. The story goes that the voyage of João Fernandez (a *labrador* or yeoman farmer) of the Azores, who signed on as pilot for Cabot, so interested King Mañuel on his return that the king granted letters patent for a Portuguese voyage—the letters, however, being granted to Gaspar Cortereal, who had greater social standing

than Fernandez. It is assumed that the king ordered Cortereal and Fernandez to follow Cabot's route and claim all that Cabot had found (including L.) as part of the legitimate property of Portugal. They sailed in 1501, but explored only the E. Greenland coast, which was named 'Labrador,' presumably after João Fernandez the navigator. However this may be, Greenland for many years afterwards was called on the maps of the period Terra Labrador. Cortereal, however, on a second voyage a year later, evidently sailed further N., and all that is known of this voyage accords well with the description of S. L., which for many years appeared on maps as Terra Cortereal. Jacques Cartier, some forty years later, cruised the W. coast of Newfoundland and the L. shore of the gulf in the search for the N.W. passage. After this L. (with the rest of explored Canada) fell under F. rule, but the peninsula was ceded to England in 1763 by the treaty of Paris.

Little is known about the geology of L. The archæan bedrocks belong to the continental foundation of N. America known as the 'basement complex,' composed mostly of metamorphic rocks and containing no fossil remains of animals or plants. This is overlaid at some places with a veneer of limestones, sandstones, and shales, some of which bear fossils of some of the earliest known organisms; but over 75 per cent of the L. peninsula this veneer has been eaten away by rain and ice so that the ancient and remarkably flat surface has been restored. The basement rocks were originally molten, but broke into crystalline masses containing granite, lava, limestone, syenite, diorite, and other minerals. Gabbro (g.r.), as dark as basalt, dominates the cliffs and mainland mts. all round Nain; but these high lands are bare of soil and vegetation. Most of the gabbro is a beautiful variety of felspar, called Labradorite, one of the abundant constituents of the world's crust. In Square Is. and on Mt. Pikey there are other considerable masses of the mineral. L. is very mountainous and very rugged, the mts. becoming highest in the N. It has many short, rapid rivers, but only a few break through the mts. from Quebec prov., Hamilton Is., on which are the magnificent Grand Falls, being the most notable. A recent power survey here indicates that the minimum hydro-electric energy available is 1,250,000 h.p. The coast is rocky, broken up with narrow inlets, and fringed with numerous small is.

The flora and fauna are alike varied. Among the prin. trees are white birch, larch (or tamarack), reaching 60 ft., balsam fir, white spruce—the best all-round tree in L. and growing to 70 ft.—balsam poplar, willow, alder, and mountain ash. Plants include reindeer, sphagnum, and other mosses, besides gentians, bluebells, wild rosemary, sundew, and also numerous edible wild fruits. The husky dog, most useful to traders, the caribou, and the reindeer are among the chief animals. Others are wolf, otter, beaver, musk-rat, black and polar bear, white fox,

karkajou or wolverene, lynx, mink, marten, weasel or ermine, and porcupine. Among the birds are numerous water-fowl, which, however, migrate in winter. There are also Arctic tern, golden plover, snow hunting, snipe, puffin, phalarope, merganser, and savannah sparrow, besides such birds of prey as hawk, eagle, owl, gull, jaquet, shrike, and gerfalcon. L. is noted for its fisheries. The waters near the coast are the resort of countless schools of cod. There are also valuable herring, trout, and salmon fisheries. The cod fishery employs about 1000 men and 230 vessels from Newfoundland. Other fish are many types of whale, halibut—a halibut bank covering hundreds of miles was discovered in recent years all along the middle L. coast—haddock, lung-fish, trout, and lump-fish. The rivers are stocked with salmon. The record cod caught was 102 lb. in weight and 5½ ft. long. There are numerous seal, the chief kinds being the harp and hood seal.

The fisheries are the most important industry. Other industries are fur trapping (beaver, otter, mink, seal, etc.) and agriculture on a minor scale, but showing signs of improvement. At the headwaters of the Hamilton R. an investigation is being carried out on an area geologically of the same age as part of the Lake Superior iron ore where the geological formations are structurally similar. Many deposits of high-grade iron ore are known to exist in the area and preliminary estimates indicate a minimum of a million tons of iron ore per vertical foot.

The climate is rigorous and the indigenous peoples suffered much from hardship and disease before the advent of the Moravian missions and the medical mission of Sir Wilfred Grenfell. There are Moravian mission stations at Nain, Okkak, Hopdale, Hebron, and other spots, which have been taken over by the Hudson's Bay Company. The labours of Sir Wilfred Grenfell in establishing hospitals, encouraging agriculture, promoting better education in Newfoundland for the benefit of the fishermen and other inhab. of L. have been the dominant feature in the life of modern L. (see GRENFELL, Sir Wilfred). There are no important towns. Battle Harbour, on the strait of Belle Isle and the cap having a pop. of about 1000. The total pop. is estimated at 5000. Near by is a model settlement in the basin of St. Mary's R., with a cottage hospital, boarding school, gardens, water reservoir, and splendid salmon-fishing. The total pop. is estimated at 5000, and is made up of Indians, Eskimos, and some whites. At the beginning of the eighteenth century the Eskimos were estimated at 30,000. When the Eng. took possession there were only five to eight thousand. To-day, over 150 years later, the only Eskimos left on the whole coast are about a thousand, all of whom are on the reservations of the Moravian Brethren, whose work began with the mission of the Christian Society of the Unites Fratrums. To-day 'the hospitable centres of the Unites Fratrums

are in every way oases in the desert to the traveller' (Grenfell). In 1921 a new church was built at Nain to celebrate the 160th anniversary of the Moravian Mission in L. See W. G. Gosling, *Labrador*, 1910; W. Grenfell, *Labrador: the Country and the People*, 1922, and *The Romance of Labrador*, 1934; and V. Tanner, *The Geography, Life, and Customs of Newfoundland-Labrador* (a systematic survey of the E. part of the L. peninsula), 1947.

Labradorite, soda-line felspar of the plagioclase group, mostly bluish and greenish in colour, abundant in St. Paul's Is., Labrador. Used in jewellery.

Labrador Retriever, powerful game-dog, having a wide head with a square muzzle, ears set high and hanging close to the cheeks, wide deep chest, muscular body, and tapering tail. The coat is short and thick, generally black, though a yellow sub-variety exists. Brought from Labrador over a century ago, its value as a gun-dog was quickly appreciated, and it is now the most popular of all retrievers, being strong, easily trained, and of exceptional intelligence. The curly and flat-coated types were formed by crossing the Labrador with other breeds.

Labrit, see ALBRET.

Labrunie, Gérard, see NERVAL, GÉRARD DE.

La Bruyère, Jean de (1645-96), Fr. essayist and moralist, b. in Paris, his father being controller general of finance to the *Hotel de ville*. He was educated at the univ. of Orleans, and called to the Bar in 1673. He abandoned this for a post in the revenue dept. at Caen, which he sold in 1686. He was then introduced by Bossuet to the household of the great Condé, to whose grandson, Henri Jules de Bourbon, he became tutor, and passed the remainder of his life in the household of the prince or at court. The first ed. of his *Caractères* appeared in 1688, and from the fourth to the ninth ed. he augmented and improved this work. His work deserves a high place in Fr. literature, and he excels in bringing out individual and picturesque traits of the innumerable persons portrayed in his *Caractères*. Cornelle, Fontenelle, and Benserade figure amongst them, together with other men and women of letters and of society. See E. Fournier, *La Comédie de la Bruyère*, 1886; M. Lange, *La Bruyère critique des conditions et des institutions sociales*, 1909; and studies by A. Gide (in *Divers*), 1932, and G. Michaut, 1926.

Labuan, is. 6 m. off the N.W. coast of Borneo, with an area of 35 sq. m. Ceded to Britain in 1846 by the sultan of Brunai; from 1890 to 1906 it was governed by the Brit. N. Borneo Company. It was then annexed to the Straits Settlements and became a separate settlement in 1912. The Jap. occupied it in 1942, and it was liberated by the Australian 9th Div. in June 1945. It is now part of the Brit. colony of N. Borneo. It has a fine harbour, which affords good anchorage for ships, and possesses extensive coal-beds and a railway. It is flat and thickly wooded and possesses a good supply of water. L. is an active market for the

products of the neighbouring is. of Borneo and the Sulu archipelago—edible birds' nests, camphor, india-rubber, wax, sago, hides, etc. The chief product is sago-flour. The is. is connected with Singapore, Hong Kong, and Landakan by telegraph cables and by weekly steamship service. Cap. Victoria. Pop. (1938) 8600 (Malays 5200, Chinese 3000).

Laburnum, genus of leguminous plants, containing only three species; they are natives of Europe and Asia, and one is common in Brit. shrubberies. This is *L. vulgare*, which is noted for its pendulous racemes of beautiful yellow papilionaceous flowers, and in all its parts it is highly poisonous.



LABURNUM

Labyrinth (Lat. *labyrinthus*), term applied by the Gks. and Romans, to buildings, chiefly subterranean, containing intricate chambers and passages difficult of egress. The most celebrated were the Egyptian, Cretan, and Samian, the first containing 3000 chambers and reckoned as one of the wonders of the world. A description of this is given by Herodotus and Strabo. It was built on the shore of Lake Meris, was the work of Amenemhet III. (2300 B.C.), and was discovered by the Egyptologist Lepsius. It was probably intended for sepulchral purposes. The Cretan L., even more famous, is said to have been the work of Daedalus, king of Minos. Similar in construction were the Samian and the It., the latter forming the tomb of Lars Porosena of Clusium. Modern Ls. or mazes in gardening are imitations of the Cretan, the celebrated maze at Hampton Court being the best known.

Lac, insect Lucifer, one of the *Coccidae*, which produces L. dye and L. resin, excreting the latter to form a crust on twigs and leaves. The dye is similar to that produced by the cochineal insect. The insect is cultivated in India, and about 30,000 tons of resin are produced per year.

Lac, or Lakh, derived from a Sanskrit word *laksha*, meaning 'one hundred thousand.' Generally used in India to signify

100,000 rupees, the nominal value of which is £10,000.

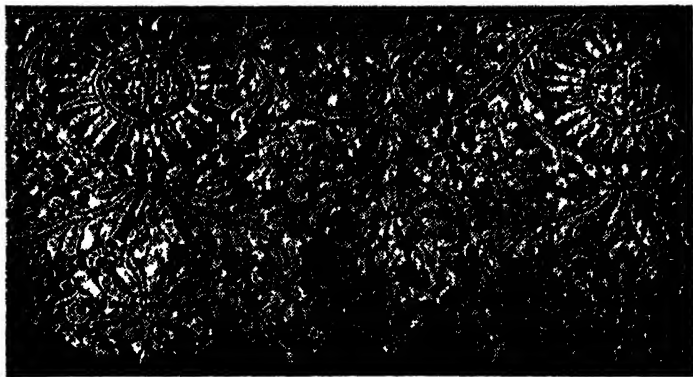
Lacaille, Nicolas Louis de (1713-82), Fr. astronomer, was b. at Rumigny in the Ardennes. In 1739 remeasured the Fr. arc of the meridian, an operation lasting two years. For this service he was admitted to the Academy, and obtained the mathematical professorship at Mazarin College. In 1750 he undertook a successful astronomical expedition to the Cape of Good Hope, which resulted in his *Celum australe stelliferum*. He also wrote *Astronomie Fundamenta* (1757); *Tabulæ Solares* (1758), etc. See R. Wolf, *Geschichte der Astronomie*, 1876.

La Calprenède, Gautier de Costes, Seigneur de (1610-63), Fr. novelist and

A coral reef extends round each of the ls. and forms a lagoon where *cotr* (coco-nut fibre), the staple product, is soaked. Other products are coco- and betel-nuts, sweet potatoes, and rice. Vasco da Gama discovered the group in 1499. Area (estimated) 80 sq. m. The inhab. are chiefly Muslims and number about 16,000.

Laccolith, or Laccolite, intrusion of igneous rock between two strata. The characteristic shape is that of a plano-convex lens, being flat underneath and arched above. Ls. were probably formed by intrusion of molten rock of a fair degree of viscosity, with sufficient internal pressure to cause arching of the superincumbent strata.

Lace, ornamental textile fabric with an



NEEDLE-POINT LACE. SEVENTEENTH CENTURY

dramatist, b. at the château de Tolgou, near Calvi, Lot, prominent among Fr. writers of the seventeenth century. Author of sev. long romances, viz.: *Cusandre* (1642-50); *Oléopatre* (1643); *Les Nouvelles* (1661); *Faramond* (1661); and sev. plays after the style of Corneille, including *Bradamante*, *Jeanne d'Angleterre*, *Le Comte d'Essex* (1658), etc. In *Cusandre* (1642), *Oléopatre* (1647), and *Faramond* (1661) La C. unfolds a sort of universal hist.: the dissolution of the Macedonian Empire, the decline of Rome's supremacy, and the foundation of the Fr. monarchy; but this is no more than the background, his heroes and heroines being mere idealisations of the lords and ladies he had met in the Parisian salons. Like all such prolix romances those of La C. are unreadable now, though his reputation endured till the eighteenth century. See E. A. Seillière, *Le Romanier du Grand Conde*, 1921, and S. Pitou, *La Calprenède's 'Faramond'*, 1938.

La Carlota, tn. in the prov. of Cordova, Spain, 16 m. S.S.W. of the tn. of Cordova, with manufs. of linen. Pop. 8000.

Laccadive Islands, group of fourteen low coral ls. in the Indian Ocean (nine inhabited), 200 m. W. of the Malabar coast included in the Madras presidency.

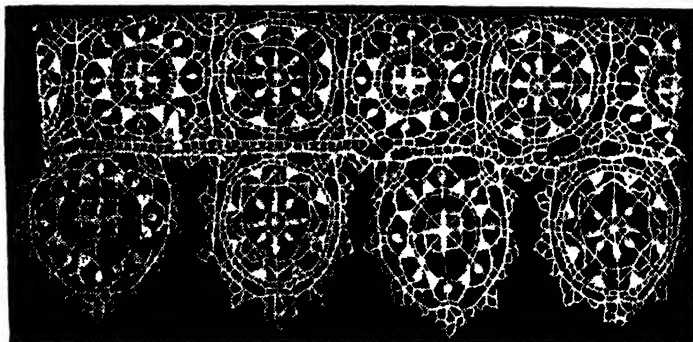
upon-work pattern produced by means of cotton, silk, rayon, flax, silver, or gold threads. There are three distinct varieties of L., needlepoint and pillow, made by hand, and machine lace, which is made in a large variety of types.

Needle-point or point L. dates from the sixteenth century. L. is mentioned in early Eng. documents prior to that date, but it was probably cord or braid twisted and plaited together and used as a strap or tie. Point L. made by the needle is associated with Venice, where the earliest point L. (*punto in aria*) was made. The design was drawn on parchment, which was then stitched to a piece of fine strong linen. The main lines of the design were stitched through on to the linen and afterwards the pattern was darned over, or sewn in with button-hole stitches, and finally the parchment cut away. The designs used in this kind of L. were generally stiff and geometrical in form. 'Rose' (raised) point L. (*gros point de Venise*) dates as far back as 1640, and was done in relief. The main pattern was held together by *brides* or *tyes*, while solid knots, stars, or flowers were worked into the design. This kind of L. was used principally for altar-cloths, eccles. vestments, and jabots. The art of making point L. spread through Italy into

France, where Alençon became the chief centre of L.-making (see Despierres, *Histoire du point d'Alençon*, 1886). One of the earliest pattern-books was pub. in 1527 by Pierre Quintz of Cologne, under the title *New and Subtle Book Concerning the Art and Science of Embroidery, Fringes, Tapestry-Making, as well as other Crafts done with the Needle*. The *point de France* was first produced in imitation of the Venetian designs, but later distinctive patterns came to be used in France and Flanders. Point L. was also made at Brussels, its distinctive feature being that the flower or star ornament was made separately and sewn on to the *réseau* or groundwork.

Pillow L. is made by hand with bobbins

main types of modern L. machine. The real beginnings of the modern machine L. industry dates from this invention. Within a few years another type of machine was invented by John Leavers; this used the same twisting principle, but did away with the necessity of traversing. In 1837 the invention of the Jacquard pattern apparatus was applied to Leavers's machine and enabled intricate patterns of L. to be made. The Nottingham L. curtain machine, embodying similar principles, and a Jacquard was patented in 1816. This enabled large-scale patterns to be made in contrast to the small patterns made on the Leavers machine. As a result of these inventions almost the whole range of hand-made L. types could be



BOBBIN LACE: SIXTEENTH-CENTURY ITALIAN

on a pillow. It is supposed to have been invented by Barbara Uttmann of Saint Annaberg, Saxony, in the mid-sixteenth century, but it must have been known in Flanders by the end of the fifteenth century, according to a picture painted in 1495 by Quentin Matsys. The parchment on which the pattern has been drawn is fixed on to a pillow or cushion in which pins are stuck at regular intervals. The various threads required are wound round sev. bobbins; as many as 1000 bobbins may be employed at a time in the more elaborate patterns. Much of the modern pillow L. has a machine-made background, instead of the former pillow-meshes made by twisted bobbin net. The flower embroidery worked on the net gives the effect of woven cloth.

Machine-made L. dates from the latter half of the eighteenth century, when many attempts were made in Nottingham to manu. a net on the stocking frame which could be used as a background for pillow L. The net made on this machine was not entirely satisfactory as it unravelled very quickly. In 1808 John Heathcoat invented the bobbin net machine; this machine was a departure from the principle of the stocking frame and substituted a twisting motion which has remained an essential part of the three

made on the machine: L. trimmings, mantilla L., curtains, table covers, wedding veils, and dress fabrics, and as the machine production was so much cheaper these luxury goods were made available to a very wide circle. Over the next hundred years the L. machine developed greatly in size until at the present time a large machine may have a working width of 480 in. and a weight of over 12 tons. In the period up to 1914 the industry expanded rapidly, though fluctuations in its fortunes occurred due to changes in fashion. Between the two wars, due to a variety of factors, such as the high tariffs in the Amer. market and lower wage costs of Fr. manufacturers, the size of the Brit. industry was reduced from a labour force of 40,000 in 1907 to one of 16,000 in 1935. In the post-war period the industry has been working to the full capacity of its available labour force and its available supplies. As the conversion value of L. is so very great it has been a most important export, and the target for this small industry for export in 1949 was of the order of £10,000,000 sterling.

See W. Felkin, *History of the Machine-trought Hosiery and Lace Manufactures*, 1867; A. Cole, *Ancient Needle-point and Pillow Lace*, 1875, and *Canta Lectures on the Art of Lace-making*, 1881; E. Lefebvre,

Embroidery and Lace (Eng. trans. by A. Cole), 1888; Dounert, *La Dentelle*, 1889; Mrs. B. Palliser, *History of Lace* (new ed.), 1900; Elizabeth Mincoff and M. Marriage, *Pillow Lace*, 1908; C. M. Blum, *Old World Lace*, 1920; G. Whiting, *A Lace-maker's Guide*, 1920; M. Schnelle, *Alle Spitzen*, 1920; A. von Honneberg, *The Art and Craft of Old Lace*; E. Page, *Lace-making*, 1930; F. A. Wells, chapter on 'The Lace Industry' in *Studies in Industrial Organisation*, ed. by H. A. Silverman, 1944; and J. C. MacCallum, section on 'The Lace Industry' in *Research in Industry*, H.M.S.O., 1948.

Lace Coral, see POLYZOA.

Lacedæmon, see SPARTA.

Lace-leaved Plant, see OUVERANDRA.

Lacépède, Bernard Germain Étienne de Laville, Comte de (1756-1825), Fr. naturalist, b. at Agen. In 1785 he was appointed curator of natural hist. in the Royal Gardens at Paris, and later held the position of prof. in the Jardin des Plantes and at the univ. At the outbreak of the revolution he retired to his country seat, but under the Directory became one of the first members of the Institution, Napoleon c. him upon him the dignity of grand chancellor of the Legion of Honour. He wrote *Histoire naturelle des poissons* (1798) and *Les Ages de la nature*; and continued Buffon's *Natural History*.

Lacertidæ, see LIZARD.

Lacewing Fly, see GOLDEN-EYE FLY.

Lachaise, François d'Aix de (1621-1709), Jesuit priest, confessor of Louis XIV., b. at Aix in Forey. L. had the reputation of a man of broad views and upright character, and always avoided extreme courses. Was a friend of Fénelon, fond of antiquarian pursuits, and a man of some learning, and founded the college of Clermont. On the property acquired by his society in 1826 stands the cemetery of Père Lachaise in Paris, called after him. See R. Chantelauze, *Le Père de Lachaise*, 1859.

La Châtre, Fr. tn. in the dept. of Indre, standing on the riv. of the same name, and situated to the S.E. of Châteauroux. Pop. 4000.

La Chaussée, Pierre Claude Nivelles de (1692-1754), Fr. dramatist, b. in Paris. The originator of modern Fr. drama. Produced his first play, *La Fausse Antipathie*, in 1731, followed in 1735 by *Le Préjugé à la mode* and in 1737 by *L'École des amis*. He also wrote *Mélanide* (1741), *L'École des mères* (1744), *La Gouvernante* (1747), *L'École de la jeunesse* (1749), and sev. *Contes* in verse. In his plays La C. combined the tragedy of common life and pathetic comedy, a type named *comédie larmoyante*, and Voltaire maintained that this pointed to the fact that La C. was unable to write either of the recognised kinds of drama. See G. Lanson, *Nivelles de la Chaussée et la comédie larmoyante*, 1887.

Laches (Fr. *lâche*, remiss, loose; Lat. *laxus*, loose, slow), in equity (q.v.) denotes such delay on the part of a plaintiff in seeking his remedy as will bar his claim to relief; for it is a maxim in equity that 'delay defeats equity.' Although analo-

gous to the various statutory terms the lapse of which by the Statutes of Limitations (q.v.) extinguishes rights or operates indirectly to transfer them to others, no precise period is necessary to amount to L. All that the equitable doctrine reprehends is unreasonable delay in the circumstances of the case, whereas rights may be barred under the Statutes of Limitations irrespective of the knowledge or means of knowledge of the circumstances of the person whose right is barred. It is not always easy from the decided cases to infer the basis of the maxim, but, generally speaking, the man who 'sleeps on his rights' is taken to have acquiesced, actually or constructively, in what he subsequently seeks to complain of. Hence fraud, whether on the part of the defendant or any one else, by which the plaintiff is rendered ignorant of his rights, will not, however long a time has elapsed, prevent the plaintiff from obtaining relief in equity; and this is also the case where the Statutes of Limitations apply. But another principle upon which the courts have acted is that he who delays ought not to be given a remedy when through his neglect or implied waiver of his rights other and innocent persons have acquired rights which, if disturbed, will result in such other persons being placed in an unfair or unreasonable position.

Lachesis, see MOIRÆ.

Lachine, tn. of Jacques-Cartier co., Quebec, Canada, on Lake St. Louis and the Canadian National railways, 7 m. S.W. by St. of Montreal, and a favourite summer residence. Steel bridges, wire, electrical apparatus, motors and equipment, engines, blinds, are manufactured, and boats are built. There is a canal hence to Montreal (9 m.) circumventing the L. Rapids of the St. Lawrence, through which all the water commerce between Montreal and the W. passes. This canal has five locks and a rise of 45 ft. Manoir-L. Museum is an old house built between 1671 and 1680. The tn. has also beautiful parks and playgrounds, and the promenade Père Marquette on the water front. There is a high school, the Collège Marie Anne for girls, and two hospitals. Pop. (1948) 24,000.

Lachish (Heb. *Lākish*), city of Judah, situated between Gaza and Eleuthropolis, and one of the caps. of the Canaanites. In 701 B.C. it was conquered by Sennacherib during his invasion of Judah, and it was to L. that King Hezekiah of Judah sent messengers with gifts, hoping thus to prevail upon Sennacherib to spare Jerusalem. L. is mentioned also among the cities resettled by the Israelites on their return from the Babylonian captivity. The tn. is now deserted, but is represented by the stone heaps of Tel-el-Hesi. Excavations have disclosed eight cities built one above the other, and afford our earliest knowledge of Palestinian ceramics. See W. Petrie, *Tel-el-Hesi*, 1891, and F. Bliss, *A Mound of Many Cities*, 1898.

Lachmann, Karl Konrad Friedrich Wilhelm (1793-1851), Ger. philologist and

critic, *b.* at Brunswick. After studying at Leipzig and Göttingen, in 1825 he was appointed extraordinary prof. of classical and Ger. philology at Berlin Univ., and ordinary prof. in 1827. He pub. *Betrachtungen über Homers Iliad*; ed. Catullus, Tibullus, Lucilius, Lucretius, etc.; and trans. Shakespeare's *Sonnets* and *Macbeth*. L.'s correspondence with the brothers Grimm was pub. in 1925, and a first vol. of letters in 1943. See M. Hertz, *Karl Lachmann, eine Biographie*, 1851; J. Grimm in *Kleine Schriften*, 1864; J. E. Sandys, *History of Classical Scholarship*, 1908.

Lachute, banking tn. in Quebec, Canada, cap. of Argenteuil co., 40 m. W.N.W. of Montreal. There are saw-mills and dairy produce is exported. Pop. 4000.

Lacium, promontory on the S. coast of Italy, 6 m. S. of Crotona; a bold and rocky headland, forming the termination of one of the offshoots of the Apennines. In anct. times it was crowned by the temple of the Lacinian Juno, the ruins of which have given name to its modern appellation, Capo delle Colonne.

Lackawanna: 1. Riv. in Pennsylvania, U.S.A., rising in the N.E. of the state and entering the Susquehanna R. at Pittston. Scranton and Carbondale are the chief tns. on its banks, and rich mines of anthracite occur in the valley. 2. City of Erie co., New York, U.S.A., at the E. end of Lake Erie. About one-twentieth of Amer. steel is produced at L., in the Bethlehem steel works. Pop. 24,000.

Lacock, vil. of Wiltshire, 2 m. from Melksham and 3 m. S. of Chippenham. L. Abbey retains its early thirteenth-century cloisters, sacristy, chapter-house, and nuns' parlour. After the Reformation Sir Wm. Sharington (c. 1540) built a Tudor mansion round these monastic ruins, and its chief features are the splendid octagonal tower overlooking the Avon and the large courtyard with half-timbered gables and clockhouse. It was at L. that Fox Talbot in 1839 invented the photographic process called after his name. The abbey and other properties here now belong to the National Trust.

La Condamine, Charles Marie de (1701-1774), Fr. geographer, *b.* in Paris. First served in the army, and then studied science and exploration. In 1731 took part in the expedition in the Levant, exploring the coasts of Africa and Asia, and making collections. In 1735, with Godin and Bouguer, he formed one of an expedition sent to Peru to measure the length of a degree of the meridian in the equatorial neighbourhood and show more accurately the shape of the earth. Chief pub.: *Journal du voyage fait par ordre du roi à l'équateur* (1751).

Laconia: 1. City in New Hampshire, U.S.A., co. seat of Belknap co., on the Winnepesaukee R., 24 m. N. by E. of Concord. Mt. Belknap is 5 m. distant. It has extensive manufs. of machinery, railroad cars, blinds, yarn, hosiery, woollen goods, etc. Pop. 13,500. 2. Prov. (anct. Lakodaimon) in Greece in the S.E. part of the Peloponnesus. Pop. 148,500. See SPARTA.

Lacordaire, Jean Baptiste Henri Dominique (1802-61), Fr. preacher, *b.* at Reccey-sur-Ouche, Côte-d'Or. He was ordained priest in 1827, and was chaplain to a convent and to the Collège Henri IV. He began his Christian 'conferences' at the Collège Stanislas (1834), which paved the way for his eloquent sermons delivered at Notre Dame (1835-36). In 1838 he joined the order of Friars Preachers or Dominicans, was clothed with the habit of that order at the Minerva in Rome, assuming the name Dominique, and prepared his *Mémoire pour le rétablissement en France de l'ordre des frères prêcheurs* (1839), and collected materials for his *Life of St. Dominic* (1841). From 1843 to 1851 he continued his 'conferences' at Notre Dame, his funeral orations being especially famous, but the best were his last, delivered at Toulouse in 1854, a series on the Christian life. In 1860 he was elected a member of the Académie, succeeding De Tocqueville. His works include *Considérations sur le système philosophique de M. de Lamennais* (1834); *Conférences de Notre Dame de Paris* (1835-51); *Conférences de Toulouse* (1854). His complete works were pub. in 1872. See lives by C. de Montalembert, 1862 (Eng. trans. 1863); B. Chocarné, 1866, and J. Honnêt; also G. Ledos, *Morceaux choisis et bibliographie de Lacordaire*, 1923.

Lacquer and Lacquering. L. is a composition which is used for the preservation and ornamentation of such substances as metal, wood, leather, etc. Lacquering has been practised for centuries in China, Japan, and many other E. countries. The famous lacquerware of the Jap. consists of wood which is coated with the juice of the L.-tree, *Rhus vernicifera*. This varnish makes the surface very hard, and differs from other varnishes in that it can endure heat. There are various kinds of lacquerware, the best being prepared by a process very tedious, owing to the number of coats it receives. One very well-known class of Ls. consists of various gums and resins, such as shellac and resin, which have been dissolved in solvents such as wood spirit. They have the advantage of drying quickly, but suffer from alterations caused subsequent to application by light, water, heat, and cold. The method of application is simple. Sev. coatings of the L. are laid on the material to be treated. Each coating is allowed to dry before the next one is superimposed. During the last few years rapid advances have been made with the introduction of partly nitrated cellulose preparations obtained by the action of sulphuric and nitric acids on cellulose. A typical L. of this basis contains, in addition to the nitrated cellulose (e.g. pyroxylin) dissolved in a suitable solvent, such as amyl acetate: (1) A plasticiser like castor oil, or linseed oil, whose function is to prevent cracking when the L. dries, as the solvent is removed. (2) Gums and resins like shellac and the modern synthetic resins, to lower the cost. (3) Pigments and dyes. (4) Diluents like toluene. These Ls. may be applied either (a) by brushing on; (b) by

dipping the article in the L.; (c) by spraying with a spray gun atomiser. At the present time the advance of the chem. of plastics has brought with it a number of new and important plastic l.s. suitable not only for wood but for metal surfaces; they are hard, resistant, and easy to apply. See also PLASTICS. See S. W. Bushel, *Chinese Art*, 1921, and E. F. Strange, *Chinese Lacquer*, 1926.

Lacretelle, Jacques de (b. 1888), Fr. novelist and essayist, b. at Château de Cormatin in Burgundy, of distinguished literary forbears, and educated at the Lycée Janson. Studied Eng. literature at Cambridge. His chief novels are *Silbermann* (1922), an objective study of a Jewish boy in conflict with his Aryan schoolfellows; and *La Bonifas* (1925), a study in introspective psychology. He shows a preference for solitaries, whose psychological constitution he acutely analyses; this is exemplified in his *La vie inquiète de Jean Hermelin*, his first novel (1920), and, much later, in *Le Retour de Silbermann* (1939), a story showing the influence of Gide. Other works: *Les Hauts-Ponts*, a novel in 4 parts (1932-33); *Quatre nouvelles italiennes* and *L'Âme cachée*, short stories (1928); *Lettres espagnoles* (1926); *Les livres étudiés* (1931), essays; *L'Écrivain public* (1936); and *Liberations* (1945). He was made a member of the Fr. Academy, 1938.

Lacretelle, Jean Charles Dominique de (1766-1855), Fr. politician and historian, b. at Metz. Became secretary to the duke of Rochefoucauld-Liancourt. In 1809 he was made prof. of hist. in the Paris Faculty of Letters; in 1810 censor of the press; in 1811 a member of the Fr. Academy, and in 1816 its president. His works include *Précis historique de la Révolution française* (1801-6); *Histoire de France pendant le dix-huitième siècle* (1808); and *Histoire de France pendant les guerres de religion* (1814-16).

Lacroix, Paul (1806-84), Fr. author, b. in Paris. He was a prolific writer, one of his chief works being *Le Moyen Âge et la Renaissance* (produced 1847, with Séré), a book on the manners, customs, and dress of those times. He also pub. elaborate works, *Histoire de la Prostitution* (1851-1852); *Histoire du XVI^e siècle en France* (1834-35); and *Histoire politique, anecdotique et populaire de Napoléon III.* (1853-1854). He is best known as 'P. L. Jacob. Bibliophile', a name suggested by his constant interest in libraries. In 1835 he was keeper of the Arsenal Library.

Lacroma, small Yugoslav ls. in the Adriatic, noted for its rich vegetation, its monastery, and its château.

La Crosse, co. seat of La C. co., Wisconsin, U.S.A., on the Mississippi R. near the mouths of the Ia C. and Black Rs., 130 m. S.E. of St. Paul. It is an important shipping point in the tobacco trade, and has very large lumber mills. There is trade also in dairy produce and cattle. Pop. 42,700.

Lacrosse, national ball game of Canada, derives its name from the resemblance of the curved netted stick, with which the game is played, to a bishop's crozier. The

game has its origin in a similar pastime of the N. Amer. Indians, in which whole tribes used to take part. In 1867 Governor Beers suggested the adoption of L. as the national game of Canada, and the National L. Association of Canada was formed; since then the game has flourished greatly in Canada and to a less extent in the U.S.A. The Eng. L. Association was formed in 1868, but the game was very little played in England until 1902. In that year the Toronto L. Club sent a team over to play the representative clubs of England and Ireland. The club's visit and that of the Ottawa club in 1907 have done a great deal to popularise the game. Matches between the N. and S. of England have been played since 1882 and a co. championship was started in 1905. England played Ireland for the first time in 1881, and intervarsity matches were instituted in 1903.

The object of the game is the same as that of football and hockey, to score goals. The goals must be at least 100 and not more than 150 yds. apart; they are 6 ft. by 6 ft., and are set up in the middle of the goal crease a space of 12 yds. square marked out with chalk. A net is drawn from the top rail and sides of the goal posts to a point 6 yds. behind the middle of the line between the posts.

The side boundaries are agreed on by the captains. No spikes may be worn on the shoes. The ball is made of Indian rubber sponge, and must weigh between 4½ and 4¾ oz., and be between 8 and 8½ in. in circumference. The 'crosse' is a light staff of hickory wood, with the top bent in the form of a hook, from the tip of which a thong is drawn down and fastened to the shaft about 2 ft. from the handle. It may be of any length, but must not be broader than 1 ft. in any part, and no metal may be used in its manufacture. Across this frame is a loose network of gut or raw hide. A team consists of twelve players—a goalkeeper, point, cover-point, three defence fields, a centre, three home fields, an outside home, and an inside home. Each player, save the goalkeeper, is directly marked by an opponent. The game is opened by the two opposing centres 'facing' the ball. Each centre stands with his left shoulder to his opponent's goal and his crosse held wood downwards on the ground; at a given signal each tries to get the ball. No player may handle the ball save the goalkeeper, and he only when saving a shot. For a foul the player is either suspended until a goal is scored or until the termination of the game, or a 'free position' (a free kick at football) is



THE CROSSE

given. No charging is allowed, but a player may stand in front of an opponent without touching him. If the ball crosses the boundary line it is 'faced' by the two nearest players, the rest remaining where they were. There is no 'offside' rule. The ball is carried on the cross with a peculiar rocking motion, which is only learnt by practice. See Sachse, *Lacrosse and Hockey*.

Lactantius, Lucius Caelius, or Caelilius Firmianus Lactantius (c. 250-330), writer and teacher of Lat. eloquence, was probably a native of Italy, but studied in Africa. About 301 he settled at Nicomedia at the invitation of Diocletian, and about thirteen years later went to Gaul to superintend the education of Crispus, son of Constantine. Previous to this he had become a convert to Christianity. His chief work is *Divinarum Institutionum Libri VII.*, the seven books being 'De Falsa Religione,' 'De Origine Erroris,' 'De Falsa Sapientia,' 'De Vera Sapientia et Religione,' 'De Justitia,' 'De Vero Cultu,' and 'De Vita Beata.' Other works of his are *De Mortibus Persecutorum*, an account of the persecutions from Nero to Diocletian; *De Ira Dei*; and *De Opificio Dei sive de Formatione Hominis*. There is a trans. by Fletcher in *Ante-Nicene Fathers*, vii.

Lactaeal, any one of the lymphatic vessels that take up the chyle absorbed from the mucous membrane of the intestines and carry it to the thoracic duct. Chyle, the product of fat-digestion, has a milky-white appearance, and this appearance is communicated to these vessels when full; hence the name.

Lactic Acid, molecular formula $C_3H_5O_3$, organic acid occurring in sour milk. The names ethylidenelactic acid and ethylene-lactic acid are sometimes applied to the isomers α -hydroxypropionic acid and β -hydroxypropionic acid respectively. The former, whose structural formula is $CH_3\cdot CH(OH)\cdot CO_2H$, is the one formed by lactic fermentation of sugars, starch, etc., and is more particularly entitled to the name L. A.; the latter, $CH_3(OH)\cdot CH_2\cdot CO_2H$, is not formed during lactic fermentation, but behaves in many respects like L. A.; it is otherwise known as hydracrylic acid. There are still two more isomers of formula $C_3H_5O_3$: sarcos-lactic acid, which occurs in extract of meat, and an acid of similar constitution formed in the lactic fermentation of cane-sugar; these are mainly to be distinguished by their optical properties. L. A. is a sour, syrupy liquid, miscible with water and alcohol in all proportions. It cannot be distilled, as it decomposes at a moderately high temp. It forms metallic salts, which are known as lactates, some of which are used in mordanting cotton, wool, and calico. L. A. is important in tanning, in medicine, and in the perfume industry. Esters of L. A. are used as plasticisers. It is manufactured by the fermentation of starch, maize, etc., by organisms such as *Bacillus acetii lactici*. The commercial acid contains 80 per cent L. A.

Lactic Acid Therapy, system of treating

intestinal disorders and general weakness by the administration of sour milk, or of preparations containing lactic acid. The sour milk theory owed its popularity to the writings of Élie Metchnikov of the Pasteur Institute at Paris. Many digestive troubles are due to the action of bacteria in causing putrefaction within the intestines, thus giving rise to changes which in the main are detrimental to health, though some of them undoubtedly assist the absorption of food material. Metchnikov proposed to fight the noxious bacilli with other bacilli whose action is conducive to good health. The precise manner in which the lactic bacillus or its products aids digestion is still a matter of doubt, and it may be said that the treatment cannot be unreservedly recommended in all cases. The marvellous longevity among peoples to whom sour milk is an everyday article of food, and the testimony of many patients who have experimented with the treatment brought Metchnikov's theories into good repute. Many preparations are now produced from soured skim milk under various trade names. The bacteria concerned are *Lactobacillus acidophilus* and *Bacillus bulgaricus*; they are usually obtained from pure cultures, and are introduced into the skim milk when it has cooled after boiling. The souring is then allowed to go on until the casein in the milk is on the point of coagulation. If the treatment does not cause amelioration of the distressing symptoms, it should not be continued. More recent work does not confirm all of Metchnikov's theories and claims that *L. acidophilus* is the only bacterium capable of producing beneficial results, and must be directly introduced into the intestine in specially inoculated soured milk. This is efficacious in curing constipation, diarrhoea, and some other intestinal disorders. See E. Metchnikov, *The Prolongation of Life* (trans.), 1907, and N. Kopelov, *Lactobacillus acidophilus*, 1926.

Lactometer, or Galactometer, contrivance for ascertaining the richness of milk. It generally consists of a graduated glass tube, the number of divs., as a rule, being 100. This tube is filled with milk to the top of the graduated part, and the liquid is then allowed to stand so that the cream may separate. After a time it may be seen how many parts in a hundred the cream occupies.

Lactose, or Milk-sugar ($C_{12}H_{22}O_{11}$), sugar found in the milk of all mammals to the extent of about 4 per cent. It may be prepared by separating the casein of milk with rennet, and evaporating the remainder; crystals of L. are formed and may be purified by recrystallising from water. L. is not so sweet as sucrose, but is much more easily digested by infants, so that cow's milk adapted for use in babies' feeding bottles is commonly sweetened with it.

Lacus Verbanus, see MAGGIORE, LAKE. **Lacy, Franz Mauritz** (1735-1801). Austrian soldier. B. at St. Petersburg, the son of Peter L. (q.v.), he entered the Austrian service and in 1758 became chief of staff to Daun, directing much of Austrian

strategy in the Seven Years war. After peace-time work in army reform L. commanded Austrian troops in the War of the Bavarian Succession, and against the Turks.

Lacy, Peter, Count (1678-1751), Irish soldier and Russian field marshal, *b.* in Limerick. He entered the Russian service in 1697, and in 1725 was appointed commander-in-chief in St. Petersburg, Ingria, and Novgorod. He took part in the war for the estab. of Augustus of Saxony on the throne of Poland (1733-35), and was made field marshal (1736). The same year he succeeded in reducing Azof, then in the hands of the Turks, and in 1741, being appointed to command against the Swedes in Finland, seized the important Swedish post of Wibmanstrand. L. has been called the 'Prince Eugene of Muscovy.' He did much to reform the Russian Army.

Ladakh, mountainous prov. in the valley of the upper Indus lying about 13,000 ft. above sea level, between the Karakorum and the Himalayas. It now forms part of Kashmir, but was originally a div. of the Tibetan Empire. The cap. is Leh. The chief riv. is the Indus. There are valuable gold mines, and iron, salt, and sulphur are also found. Sheep are reared, and barley, wheat, and millet cultivated. Area, 45,762 sq. m. Pop. 270,000.

Ladas: 1. Famous Gk. runner in the time of Alexander the Great, native of Laconia, who gained the victory at Olympia in the δολιχος (long course of twenty stades). A monument was put up to his memory on the banks of the Eurotas, and there was also a fine statue of him by Myron (c. 430 B.C.) in the temple of Apollo Lyceus at Argos. 2. Native of Argium in Achaia, who gained a victory in the foot race at Olympia in 280 B.C.

Ladd, George Trumbull (1842-1921), Amer. philosopher, *b.* at Palmyerville, Ohio. He held the chair of philosophy in Bowdoin College in 1879, and was Clark prof. of metaphysics and moral philosophy at Yale, 1881-1901, becoming prof. emeritus in 1905. Some of his works are *Elements of Physiological Psychology* (1887); *Primer of Psychology* (1894); *Psychology, Descriptive and Explanatory* (1894); *Philosophy of the Mind* (1895); *A Theory of Reality* (1899); *Philosophy of Religion* (1905); *Knowledge, Life, and Reality* (1909).

Ladders, see **SCALING LADDERS**.

Ladin, or **Ladino**, Romance dialect, found in its purest form in the Grisons, Switzerland, particularly in the Engadine and neighbouring valleys. It took its origin from the 'lingua rustica Romana' of the later empire. It has little literature, but among the writers in it have been Johann von Travers, Conrad von Flüel, and S. F. Caderes. An excellent L. dictionary by Zaccaria Pallioppi appeared in 1895. See C. Battisti, *Popoli e lingue nell'Alto Adige*, 1931.

Lading, Bill of, see **BILL**.

Ladismith, tn. of Cape Prov., S. Africa. In the Little Karoo, 1860 ft. above sea level, in the midst of fine mt. scenery. It is a farm centre, producing grain, fruit, feathers, and brandy. Like Ladysmith

(*q.v.*) L. was named in honour of the wife of Governor Sir Harry Smith. Pop. (all races) 1700, (whites) 1000.

Lado, tn. of E. Sudan, in the Bari country, on l. b. of White Nile, just below Gondokoro. It was founded by Gen. Gordon in 1875, and became his headquarters after he had abandoned Gondokoro. Altitude 1525 ft.

Lado Enclave, region W. of the Upper Nile and N.W. of Lake Abert. Originally administered by the Congo Free State, being leased in 1894 to the king of the Belgians for his life (Leopold II., *d.* 1909), but since 1910 by the Anglo-Egyptian Sudan. Part is now included in the Mongalla dist. of Sudan, part in N. Uganda, to which it was transferred in 1914. Lado, on the Nile, 11 m. S. of Mongalla, was the cap. It was named from Mt. Jebel Lado (2500 ft.), and had an area of 15,000 sq. m.

Ladoga, Lake, largest lake in Europe, lat. 59° 56' to 61° 48' N., long. 29° 53' to 32° 50' E., bordering upon the Leningrad region, R.S.F.S.R., and the Karelo-Finnish S.S.R. Area 7230 sq. m. The shores are generally low but rocky in the N.W. and are fringed by numerous small is. It receives about seventy rivs., of which the chief are the Volkhov, Svir, Wuoxen, Taipala, and Syas, and its outlet is by way of the Neva into the gulf of Finland. The depth is very unequal, the average being 300 ft. and the maximum (in the N.) is 780 ft. There are numerous rocks and quicksands, and the lake is subject to violent storms, which render navigation dangerous. It is frozen for about half the year. There is a chain of navigable canals round the S. and S.E. sides. The chief tns. on its shore are Novaya-Ladoga and Kexholm, both of which figured in the Russo-Ger. campaign, 1941-42. There was also much fighting for the lake between Russia and Finland (1939-40) and again in the summer of 1944. See **EASTERN FRONT, OR RUSSO-GERMAN CAMPAIGN IN SECOND WORLD WAR**.

Ladrones, or **Marianne Islands** (Marianas), group of is. in the Pacific Ocean. They are fifteen in number, ten of which are of volcanic origin, and of the 9 only four are inhabited, while the other five are coralline limestone is. All of them are densely wooded and the vegetation is luxuriant, the chief productions being coco-nut and areca palms, yams, manioc, coffee, cocoa, sugar, cotton, and tobacco. The is. were discovered by Magellan in 1521, and called 'Islas de los Ladrones' by his crew on account of the thieving propensity of the inhab. The seat of gov. is on the is. of Saipan. They were originally the property of Spain, but Guam, the largest, was ceded to the U.S.A. in 1898, and the rest were sold to Germany in 1899. Area (excluding Guam) 200 sq. m. Pop. (1940) 70,000 (natives 50,000, Jap. 20,000). Cap., Agaña. In 1914 they were occupied by the Australians, but after the First World War were put under Jap. mandate. In the Second World War the Amers., having reduced the Marshall Is. and, with them, the Jap. bases of Truk and Ponape, advanced to the Marianas. At the heart

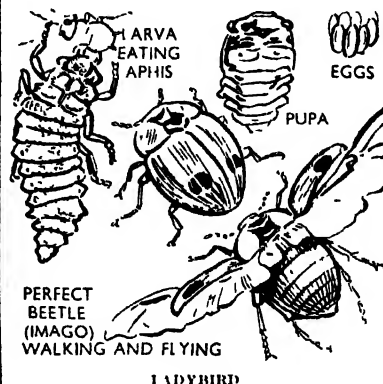
of this group lay their main objective, the is. of Saipan, an air centre and one of the chief Jap. naval bases in the area N. of Truk and Palaw. Their strength and geographical position made the Marianas a highly strategic part of the Jap. system of its fortresses, and formed one of the main barriers defending the seas between Japan and the Philippines. On June 10, 1944, a strong Amer. task force of battleships and carriers began a sustained bombardment of Saipan and four days later three divs. landed on the is. The Jap. garrison of 20,000 was outnumbered by the invaders, but its resistance was savage and fanatical, the jungles and mt. ridges favouring the defence. The bitterness of the defence was a reflection of the importance which the Jap. attached to holding the Marianas, but though they now launched attacks with torpedo bombers they showed no disposition to risk their navy against the powerful Amer. force covering the invading troops. The sole Jap. hope lay in effecting a surprise attack with carrier planes launched at extreme range, but the assault failed of its purpose. Amer. carriers and battleships moved on Guam and Rota and destroyed the Jap. airfields there on which the Jap. carrier planes had counted on finding a refuge. In that engagement over 400 Jap. planes were destroyed (July 6). The remnants of the Jap. garrison, pushed to the N. tip of Saipan, delivered their last desperate counter-attack, but by July 8 the Amer. forces were in complete control of the is., having sustained casualties to the extent of over 16,000 (3000 killed). The Jap. lost nearly 21,000 in killed alone. With Saipan conquered the occupation of the remaining positions in the Marianas followed quickly. (See further under PACIFIC CAMPAIGNS OR FAR EASTERN FRONT IN THE SECOND WORLD WAR.) On July 19, 1947, the U.S.A. formally took over the rule of the former Jap. mandated is. in the Pacific under United Nations trusteeship. All these is. had been administered by the Amer. Navy since their capture. See L. M. Thomson, *Archæology of the Mariana Islands*, 1922, and *Guam and its People*, 1942; and T. Janahara, *Pacific Islands under Japanese Mandate*, 1940.

Lady, term used as the feminine of gentleman, or in a more confined sense as a title corresponding to lord. It is borne by the wives of peers and the daughters of dukes, earls, and marquesses, who are designated by the title L. prefixed to their Christian name. The wives of baronets and knights are also called L., but the title is prefixed to the surname only.

Ladybank, par. and tn. of Fifeshire, Scotland, 5 m. S.W. of Cupar. It is an important railway junction, and a picturesque summer resort. There are malting works and linen manufs. Pop. 1200.

Ladybird, popular name of the numerous species of polymorphous Coleoptera belonging to the family Coccinellidae, and remarkable for their beautiful variety of colouring. Their chief characteristic is the curious formation of the tarsal, of which only three of the four segments are visible,

the third being sunk in the second; the antennae are short and slightly clubbed, and the head is largely concealed by the thorax. There are 2000 species, generally of a bright red or yellow colour, with black or coloured spots.



Ladybrand, tn. of the Orange Free State, S. Africa, named after the wife of President Brand (as was Zastron, that being her maiden name). Its climate is extremely bracing, and on this account it is much frequented as a health resort. Petroleum and coal are obtained in the vicinity. Pop. (white) 2270, (native) 2300.

Lady Chapel, chapel dedicated to the Virgin Mary, usually a prolongation of the choir, built eastward of the high altar and projecting from the main building.

Lady Day (March 25), festival of the Annunciation of the Blessed Virgin Mary. It is one of the four Eng. quarter days.

Lady Margaret Hall, residence at Oxford for women students, named after the countess of Richmond and Derby, mother of Henry VII. It was founded in 1878 according to the principles of the Church of England, but with full religious liberty for the members of other denominations. All intending students must pass an entrance examination, 'Responsions,' and undertake, as a rule, to read for an honours degree. Women students are admitted to all the examinations of the univ. of Oxford and are allowed to attend the univ. lectures.

Lady's Mantle, see *ALCHEMILLA*.

Ladysmith, tn. in Natal, S. Africa, on the Klip R., 80 m. N.N.W. of Pietermaritzburg and 203 m. by rail from Durban. The tn. is named in honour of a Sp. girl, who was rescued by her future husband, Sir Harry Smith, after the storming of Badajoz in the Peninsular war. Sir Harry Smith afterwards became governor of the Cape Colony. L. was founded in 1831, and owes its growth to the opening of the railway from Durban in 1886 and the extension of the line to Johannesburg. It is now the third tn. in Natal, the trading centre of the N. part

of Natal, and the chief railway junction in the prov. Its tn. hall is a substantial building, which includes the administrative offices, hall, and theatre. The tn. gardens are well laid out. The appearance of the streets and the general aspect of the tn. have much improved in recent years. In All Saints Church, which has been enlarged since the Boer war, are memorial windows and tablets to the 3200 men who fell in the defence and relief of the tn. in the S. African war, 1899-1900. L. is a convenient centre from which to visit the neighbouring battlefields, sev. of which are close to the tn. Spion Kop (Jan. 20, 1900) is 18 m. distant, and Wagon Hill and Nicholson's Nek are within walking distance. The lych gate has been erected as a memorial to the fallen of the First World War. Planned on a slope near the Klip R. at a distance of 30 m. from the foot of the Drakensberg Range and sheltered from severe winds, with a dry, bracing, winter climate, L. has been recommended for patients suffering from phthisis or pulmonary disorders. Pop. (all races) 11,000, (white) 4250.

Lady's Tresses, see **SPRINKLES**.

Lae, seaport and cap. of the Australian mandated ter. of New Guinea. It is situated in the Morobe dist. at the head of Huon Gulf at the mouth of the Wussli (Markham) R. After the volcanic eruption of 1937 in Blanche Bay, it was decided to move the seat of gov. from Rabaul (in the is. of New Britain) to L. L. remained the seat of administration until it was evacuated after the Jap. attacks in Jan. 1942. It was recaptured by Australian forces on Sept. 18, 1943. (For an account of the fighting for L. and Salamaua, see under **PACIFIC CAMPAIGNS**, or **FAR EASTERN FRONT**, in **SECOND WORLD WAR**.) Little remained of L. after the war, and, except for the aerodrome there, L. has nothing to-day, not even a good harbour. The only building of former days is Guinea Airways' old workshop; all else was obliterated, although in the vast triangular area formed between the dist. called Milford Haven, the hotel, and Malahang native hospital, there are (1949) hundreds of buildings left behind by the Australian and Amer. troops, connected by what were previously good roads but now falling into disrepair.

Laeken, com. of Brabant prov., Belgium, 2½ m. N. of Brussels, of which it forms a suburb. L. Castle, the summer residence of the Belgian royal family, stands on a hill. There is a fine modern church; the suburb has a noted carpet-making industry. Pop. 30,500.

Laelia, a genus of Orchidaceae, is closely allied to the genus *Cattleya*. There are in all twenty species, all of which occur wild in tropical America, and many of which are epiphytes. The leaves are fleshy and the flowers very beautiful, for which reason they are often cultivated in Britain. *L. anceps* is a well-known species bearing lilac-coloured flowers.

Laënnec, René Théophile Hyacinthe (1781-1826), Fr. doctor, b. at Quimper in Brittany. He is famous as the inventor of the stethoscope, as well as for

his numerous writings, among which may be mentioned *De l'auscultation médiate* (1819), which made a great sensation at the time of its pub. and has been trans. into many languages; *Histoire d'inflammations de poitrine* (1801); and *Observations sur les fièvres intermittentes* (1807). L. also ed. the *Journal de Médecine*, and was prin. physician to the Hôpital Necker for some years. He occupied the chair of medicine at the Collège de France in 1822, and was a member of the Royal Academy of Medicine.

Laer, Pieter van, see **BAMBOCCIO**.

Laertes: 1. In anct. Gk. legend king of Ithaca and father of Odysseus. He was the son of Acrisius and Chalcomedusa and husband of Anticleia. In his youth he conquered Nerium and took part in the Calydonian hunt and the expedition of the Argonauts. While Odysseus was at Troy he lived in rustic retirement, but after his return was made young again by Athena. 2. Character in Shakespeare's *Hamlet*, brother to Ophelia.

Laertius, Diogenes, see **DIODEGENES LAERTIUS**.

Laeso, Dan. is. in the Cattegat. The inhab. are engaged chiefly in the production of salt. There is little good soil, for the surface of the is. has been denuded of trees to provide fuel for the boiling of sea-water for the salt industry. Pop. 3000. See H. Baurlein, *Lausfjalls and Furefjells*, 1919.

Laetare Sunday, see **GOLDEN ROSE**.

Lavulose, see **FRUCTOSE**.

La Farina, Giuseppe (1815-63), It. historian, who conducted sev. Liberal newspapers, ultimately removing to Florence. Here he estab. in 1847 *L'Alba*, a democratic jour. advocating It. freedom and unity, but went back to Sicily on the outbreak of the revolution, and was exiled in 1849. In 1850 he pub. his *Storia documentata della Rivoluzione Siciliana del 1818-19* (1850) and *Storia d'Italia dal 1815 al 1818* (6 vols.) (1851-55). Other works: *La Germania coi suoi monumenti* (1842) and *L'Italia coi suoi monumenti* (1842).

La Fayette, Gilbert Motier de (1380-1462), marshal of France, was descended from an anct. family of Auvergne. He served under Boucicaut and John I., who made him lieutenant-general in Langue-doc and Guienne. In 1420 he was created marshal of France for his successes over the Eng. and Burgundians on the Loire. He was in command of the troops at Baugé in 1422, and fought with Joan of Arc at Orleans and Palay in 1429.

La Fayette, Marie Joseph Paul Roch Yves Gilbert Motier, Marquis de (1757-1834), Fr. general and politician, b. in the château de Chavagnac in Auvergne. He inherited his estates at the age of thirteen, and having served as sub-lieutenant under Noailles for a period, quitted France and sailed for America in 1777 to aid the colonists. He distinguished himself on the side of Washington, especially at the defence of Virginia in 1781 and at the battle of Yorktown in 1782. He had been made a major-general in the Fr. Army (1781), and in 1787 took his seat in the

Assembly of Notables and demanded the convocation of the States-General, thus becoming a leader in the Fr. Revolution. In 1789 he was elected to the States-General, and being made vice-president of the National Assembly laid on the table a declaration of rights based on the Amer. Declaration of Independence. The same year he was chosen colonel-general of the new National Guard, and it was he who proposed the combination of colours now in the tricolour cockade of France. His position was difficult; although he struggled for order and humanity, the Jacobins detested his moderation, and the court hated his reforming zeal. He supported the abolition of title and all class privileges, but the hatred of the Jacobins increased and he was compelled to take refuge in Liège. He was imprisoned by the Austrians for five years, but released by Napoleon. and again was a leader of the opposition (1825-30). During the revolution of 1830 he resumed his leadership of the National Guard, but was as unsuccessful as before. See *Memoires, correspondances et manuscrits du general La Fayette*, pub. by his family, 1837-38; O. Roberts, *With Lafayette in America*, 1919; P. Guedalla, *Father of the Revolution*, 1926; B. Whitlock, *Lafayette*, 1929; and M. de la Bedoyere, *Lafayette, a Revolutionary Gentleman*, 1933. The life by A. Latzko, 1933, contains a bibliography.



MME DE LA FAYETTE

La Fayette, Marie Madeleine Pioche de la Vergne, Comtesse de (1634-83), Fr. author, b. in Paris. She studied Gk., Lat., and It., one of her tutors being Gilles de Ménage. She was friendly with Mme de Sévigné and intimate with La Rochefoucauld, which liaison lasted until his death. Her first novel, *La Princesse de Montpensier*, appeared in 1662, *Zayde* in

1670, and *La Princesse de Clèves* in 1678. The last, her *chef-d'œuvre*, which gives a vivid picture of the court life of her day, bears a striking contrast in its simplicity to the lengthy and extravagant romances of the time, and met with much criticism, even from Mme de Sévigné. In answer to this criticism she wrote her last novel, *La Comtesse de Tende* (1721). She also wrote *Histoire de Madame Henriette d'Angleterre* (pub. 1720). See C. Saint-Beuve, *Portraits des femmes*, 1869; D. Haussanville, *Madame de La Fayette*, 1891; H. Ashton, *Mme de La Fayette, sa vie et ses œuvres*, 1922; and F. Styger, *Essai sur l'œuvre de Mme de La Fayette*, 1911.

Lafayette: 1. Co. seat of Tippecanoe co., Indiana, U.S.A., on the Wabash R., 58 m. N.W. of Indianapolis. It stands on rising ground at the head of navigation on the riv. and is a shipping centre for the surrounding agric. area. There are various industrial plants, producing aluminium, motor accessories, electrical appliances, etc. The seat of Purdue Univ., noted for work in agric. science. Pop. 28,800. 2. City of Louisiana, U.S.A., on the Vermillion Bayou, 145 m. W. of New Orleans. It is an important shipping centre, and has railway shops, canneries, sugar refineries, and other plants. Pop. 19,200. **'Lafayette'** (Fr. liner), see 'NORMANDIE'.

Lafayette National Park. A gift to the U.S. Gov., this park consists of 12 sq. m. on Mt. Desert Is. off the coast of Maine. It contains many lakes, and was restored as far as possible to its pristine condition by reforestation by the U.S. Forest Service.

Laferte, Victor, see DOLGOROUKI.

La Ferte-sous-Jouarre, see FERTI-SOUS-JOUARRE.

Lafitte, Jean, see BARATARI.

La Follette, Robert Marion (1855-1925), Amer. politician, memorable in Amer. political annals as 'Fighting Bob,' b. Dane co., Wisconsin. Graduating from the univ. of Wisconsin in 1879, he was admitted to the Bar in 1880. Entering politics as a Republican, he served three terms in Congress from 1885 to 1891, after which he was governor of the state for three terms, from 1901 to 1905. In the latter year he was elected to the U.S. Senate, and served in that body until his death. In 1912 he and his friends founded the Progressive party, bitterly assailing President Taft for signing the Payne-Aldrich Tariff Bill, which revised the tariff upwards. In 1924 in the Republican convention he and his friends formed a new Progressive party, and he was nominated as president. He conducted a vigorous campaign, but only succeeded in capturing the electoral votes of his own state.

La Fontaine, Jean de (1621-95), Fr. poet, b. at Château-Thierry in Champagne. On both sides his family was of the highest prov. class, but was not noble. His father was *maître des eaux et forêts* and was well-to-do. Jean, who was the eldest child of his parents, was educated at the local grammar school of Château-Thierry and at the close of his schooldays entered the oratory and seminary of St. Magloire,

with a view to taking holy orders, but quickly found that he was entirely unsuited to that calling. He then studied law and was admitted *avocat* but did not practise, for about that time his father assigned his rangership to his son and arranged a marriage for him with a pretty girl of fifteen, Marie Héricart, of whom La F. soon grew tired (it was said that she was an idle housewife and read novels all day).



LA FONTAINE

One son was born to them and was taken care of wholly by his mother. In 1659 La F. agreed to a division of property and left his wife. He came to Paris where, under the influence of different patrons belonging to the nobility—the duchesse de Bouillon, the prince de Conde, Mme de la Fayette, and the beautiful Mme de la Sablière, a woman of high character and considerable intellectual power, who invited La F. to make his home in her house. Here he worked and lived for twenty years, drifting into that careless and easy-going existence which lasted till his conversion, just before his death, after an energetic young priest, M. Poucet, had brought La F. to realise and to acknowledge the impropriety of the *Contes*. Although Mme de la Sablière later had given herself up almost entirely to good works and religious exercises, La F. still remained an inmate of her house till her death in 1693. He himself only survived her about two years, and was buried in the cemetery of the Holy Innocents. From childhood he began to write verses, and in 1654 pub. a verse trans. of the *Eunuchus* of Terence. This got him an introduction to Fouquet, the Mæcenas of Fr. literature at the time, who awarded him a pension of 1000 francs for a piece of verse quarterly. After this he took up writing seriously for a time, and produced *Le Songe de Vaux* (1659), a medley of prose and poetry on Fouquet's country house, and *Les Rieurs du Beau-Richard*, a ballad, the same year. But La F., though a charming and gifted writer, was dissipated and idle, and it was not

until 1664 that he produced anything of importance. In this year the first book of his *Contes* appeared, the subjects of which are taken from Boccaccio, Ariosto, Machiavelli, and other writers. The stories are admirably told, but the book is coarse. In 1668 his *Fables choisies mises en vers* appeared, and in 1669 *Les Amours de Psyché et de Cupidon*. The *Fables*, which are free from the impropriety of the *Contes*, are known universally, and are generally regarded as his masterpiece. They exhibit the fecundity and versatility of the author, and what perhaps is the greatest praise, and this is given by De Sacy, they give delight to three sev. ages—to the child by their freshness and vividness, to the student on account of their perfect art, and to the man of the world on account of the subtle reflections on character contained therein. In his *Fables* La F. invented nothing. He found his subjects in numerous sources—Æsop, Phædrus, Babrius, and other ancients, or in sixteenth-century writers such as Des Périers, Rabelais, and Marot; but, having taken his subject, he transformed it by his wonderful gifts as a poet and psychologist. La F. was received into the Academy in 1681. See C. Walckenaer, *Histoire de la vie et des ouvrages de La Fontaine*, 1820; H. Talne, *La Fontaine et ses fables*, 1853, and many later eds.; R. Bray, *Les Fables de La Fontaine*, 1929; and J. Vianey, *La Psychologie de La Fontaine*, 1939; lives by G. Michaut, 1912-14, and A. Bailly, 1937; also Eng. trans. of the *Fables* by Sir E. Marsh, 1931.

LaFontaine, Sir Louis Hyppolyte (1807-1861), Canadian statesman, b. in Lower Canada; educated at Montreal; became a barrister. In 1830 he became a member of the Legislative Assembly, and about 1839 leader of the *parti prêtre*. He was opposed to the union of Upper and Lower Canada in 1840. He was an M.P. in 1841. In 1842 he joined with Robert Baldwin in forming the first Baldwin-L. administration, holding the portfolio of attorney-general for Lower Canada, but, disagreeing with Sir Charles Metcalfe, he resigned in 1843. In opposition until 1848, he was then called upon by Lord Elgin to form the so-called second Baldwin-L. administration, in which he was again appointed attorney-general; it was he who introduced the Rebellion Losses Bill of 1848, the passing of which finally estab. the triumph of responsible or parl. gov. in Canada. This marked the height of his parl. career and thenceforth he was more conservative in his outlook, particularly on the controversial questions of the abolition of seigniorial tenure and the secularisation of the clergy reserves. Resigned 1851 and withdrew from public life; but in 1853 became chief justice of Lower Canada, which position he held until his death. Baronet, 1854. He collaborated with Jacques Viger in *De l'esclavage en Canada* (1859). See S. Leacock, *Baldwin, LaFontaine, Hincks*, 1907.

Laforge, Jules (1860-87), Fr. poet, sometimes called by his enthusiastic friends the Fr. Heine, was b. at Montevideo, of Fr.

parents originally from Brittany. When a mere boy he returned to Tarbes, where he was educated, and afterwards lived in Paris, where he studied at the Lycée Condorcet. Through Paul Bourget he obtained the post of Fr. reader to the Ger. Empress Augusta. He held this post from 1881 to 1886. In his leisure moments he studied Eng. and Ger. and wrote verses. He married Leah Lee, a young Eng. girl, and settled in Paris, but succumbed to tuberculosis in a few months. His work is often marked by a bitter irony, the result of his foreknowledge that all things were to be brief for him. His best book of verse is his *Invitation de Notre Dame la lune* (1886). His most famous prose work is his short stories in *Mes moralités légendaires* (1887). See life by J. Ousiniar, 1925.

Lagarde, Paul Anton de (1827-91), Ger. orientalist, b. at Berlin, his real name being Botticher, and L. being assumed in 1854. He was a prof. at Göttingen Univ. from 1869 to his death. He ed. *Didascalia apostolorum syriace* (1854); *Prophetæ chaldaice* (1872); *Hagiographa chaldaice* (1874); Arabic, Syriac, and Coptic trans. of the scriptures, and also wrote many works on Persian and other oriental subjects. See lives by Anna de Lagarde, 1894, and J. Becker, 1935; also W. Mommsen, *Lagarde als Politiker*, 1927.

Lagemann, see LAYAMON.

Lager Beer, see BREWING, *varieties of Beer*.

Lagerlöf, Selma (1858-1940), Swedish novelist and poet, regarded as one of the foremost Swedish authors, b. at Morbacka, daughter of an army officer, educated at Royal Women's Superior Training College, Stockholm; taught at Landskrona, 1885-1895. In 1890 she received a prize in a magazine for some chapters of *Gosta Berlings Saga* (pub. in 1891), and took up literature in earnest after 1895. She received a doctor's degree from Upsala Univ. in 1907, and gained the Nobel prize in 1909. Her works include *Invisible Links* (1894); *Miracles of Antichrist* (1897); *From a Swedish Homestead* (1899); *Jerusalem* (1901); *Legends of Christ* (1904); *The Adventures of Nils* (1906); *The Girl from the Marsh* (1908); *Short Stories* (1915); *Lachris Toplevelius* (1920); *Charlotte Lovenskölde* (1925); *Harvest* (1933); and *The Diary of Selma Lagerlöf* (1937). Pub. her autobiography in 1924. L., whose work is essentially of the romantic order, was the forerunner of Sigrid Undset, author of the Nobel prize-winning novel, *Karin Lyvranddotter*. She was the first woman to be elected a member of the Swedish Academy. See lives by W. Berendssohn, 1928, and E. Wagner, 1943.

Laggan, Loch, lake in Inverness-shire, Scotland, situated 800 ft. above sea level and surrounded by deer forests. The shore is sandy and the dunes formed by S.W. winds give L. the appearance of a sea loch on the W. coast. Gooseander abound, and the waters, which receive Pateack R., are the haunt of the ferocious trout. L. is believed to have been the site of a hunting lodge of the ancient Scottish kings.

Laghout, or El Aghuat, military cap. of Algerian Sahara, 200 m. S.W. of Algiers. An important mart. Pop. 7000.

Lagny, tn. of France, in the arron. of Meaux, dept. of Seine-et-Marne, on the l. b. of the Marne, 17 m. E. of Paris. Manuf. of fine brushes. Close to L., at Pompoane, 1933, occurred the worst disaster in the hist. of Fr. railways, 15 m. from Paris, when 200 persons were killed in a collision. Pop. 7600.

Lago Maggiore, see MAGGIORE.

Lagoon (Fr. *lagune*, Lat. *lacuna*, a pool): 1. Shallow stretch of salt water near the sea. Such Ls. have been formed by the gradual raising of a sand-bar on the extension of a spit on a low shore, so that a sheet of water is isolated from the sea. 2. Sheet of fresh water at some distance inland, usually shallow and of small extent. Such are found in the old lake plains of Australia, and are the haunt of numerous aquatic birds. 3. The expanse of smooth sea-water enclosed by a coral reef or atoll in the S. Seas, etc.

Lagoon Islands, see GILBERT AND ELLICE ISLANDS.



E.N.A.

Lagos—THE OBUN OKE MARKET

Lagos: 1. Former Brit. crown colony on the Slave Coast, and after 1906 a W. prov. of S. Nigeria. In 1886 a separate colony and protectorate of L. was constituted; and in 1908 L. and S. Nigeria were united as the colony and protectorate of S. Nigeria; in 1918 the protectorate was united with that of N. Nigeria to form the colony and protectorate of Nigeria. It is the centre of the W. African palm-oil trade, and also exports oil nuts, rubber, cotton, coffee,

cacao, ivory, and gum-copal. The climate is very unhealthy for Europeans. Area 29,000 sq. m. Pop. 1,500,000 (500 Europeans). 2. Tn. and seaport of Nigeria, of which it is also the cap. It stands on an is. near the N. shore of the bight of Benin, and is joined to the mainland by a bridge. It has large docks, floating docks, and wharves, and is connected by rail with Kano, 700 m. to the N.E. It does a large and lucrative trade with all parts of Nigeria, especially in exporting palm oil and palm kernels, cocoa, ground nuts, hides, etc. L. is included in the old colony of Nigeria, but it is the headquarters of the whole protectorate. An attempt has been made to develop an African municipal corporation on the European model. Municipal administration began about sixty or more years ago with a 'Board of Health' which subsequently developed into a tn. council of five official, four elected, and four nominated members; this council is responsible for health and employs two medical officers of health as well as inspectors and social workers. Tn.-planning and slum clearance are in the control of an official body, the Lagos Executive Development Board. There is a wireless station under the control of the E. Telegraph Company, and secondary schools for boys and girls. Pop. 137,400 (500 Europeans). 3. Fortified seaport of Algarve prov., Portugal, on S. coast, 110 m. S. of Lisbon. There are old walls and an aqueduct, and near by is the site of anct. Iacobi. Pop. 8,500. 4. Tn. of Jalisco, Mexico, on Mexican Central railway, 100 m. N.E. of Guadalajara. Near it are some famous silver-mines, and the tn. is noted for its churches. Also called L. de Morena. Pop. 15,000.

Lagrange, Joseph Louis, Comte de (1736-1813). Fr. mathematician, b. of Fr. parents at Turin, where he received his education. At an early age he became prof. of mathematics in the Royal School of Artillery and there formed an association which rose to the status of an academy of sciences. He contributed largely to the *Memoirs of the Academy of Turin*, investigating, among other subjects, the propagation of sound, the vibration of chords, the motion of fluids. In 1764 he gained a prize offered by the Fr. Academy of Sciences for a *Theory of the Libration of the Moon*. In 1766 he became a director of the Berlin Academy of Sciences, in 1772 a foreign associate of the Academy of Paris, and in 1787 settled in Paris, where he became in 1791 prof. of geometry at the Polytechnic School. Author of *La Mécanique analytique* (1788); *Théorie des fonctions* (1798); and *Traité de la résolution des équations de tous degrés* (1798). His great discovery was the method of variations. See memoir by J. B. J. Delambre, 1876-77.

La Grange: 1. Co. seat of Troup co., Georgia, U.S.A., 60 m. S.W. of Atlanta. It has cotton mills and various manufs., and contains sev. educational establs. Pop. 22,000. 2. Tn. of Cook co., Illinois, U.S.A., on the Burlington route, 15 m. S.W. of Chicago. Pop. 10,500.

La Guardia, Fiorello Henrico (1882-1947), Amer. lawyer and politician, b. in New York and educated at New York Univ. Deputy attorney-general of New York, 1915-17. Member of Congresses, 1917-21, 1923-25. In the First World War he commanded the 8th Centre Aviation School and the Amer. Flying Force on the It. front. He was the first Republican for twenty years to be elected president of the Board of Aldermen of New York city (1921). Elected mayor of New York city, 1933, and re-elected, 1937, he initiated a federal housing scheme and measures for safeguarding labour interests. He was also a successful mediator in labour disputes. His address (March 1937) before the Amer. Jewish Congress, in which he attacked Hitler's anti-Semitic policy, induced Germany to make diplomatic protests. From 1940 he was chairman of the U.S. section of the Canada-U.S.A. Defence Board, and director of U.S. civil defence from 1941 to 1942. He was director-general of U.N.R.R.A. from March 31, 1946, until the end of that organisation on Dec. 31, 1946.

La Guayra, or La Guaira, chief seaport of Venezuela, on the Caribbean Sea, 10 m. N. of Caracas, of which it is the port. It is connected with Caracas by the La Guaira and Caracas railways, one of the most picturesque mt. railways in the world. It is closely surrounded by mts. except to seaward. There is an excellent harbour of 90 ac. with a depth alongside the quays of 10 to 10 ft., formed by a breakwater constructed in 1885 by a Brit. company. A large export trade is done in coffee, cacao, indigo, cotton, sugar, and hides, and there are rich oil-fields in the vicinity. There is a wireless station. The tn. was founded in 1588 by Diego de Osorio. It was the scene of much fighting during the War of Independence. Pop. (including the suburb of Maiquetia) 25,000.

Laguna: 1. Prov. of Luzon, Philippine Is., on the lake known as Laguna de Bay, which extends almost across the is. The dist. is mountainous (chief peaks, Banajao, 6000 ft., and Maquillin, 350 ft.), with fertile valleys, and rice, coffee, and cacao are produced. Cap. Santa Cruz. Area 752 sq. m. Pop. 150,000. 2. Tn. of Tenerife, formerly cap. of Canary Is., situated at an altitude of 1790 ft. A bishop's see. Pop. 14,000.

La Habana, see HAVANA.

La Halle, Adam de (c. 1240-87). Fr. poet and dramatist, commonly known as the hunchback of Arras. He was b. at Arras, and in 1283 followed Robert II. of Artois to Naples, where he died. He is notable as the originator of comic opera in *Le Jeu de Robin et de Marion*, and of modern comedy in *Le Jeu Adam, ou de la fustelle*, which is partly autobiographical. His works were ed. by L. Bahlson (1885), A. Rambaud (1886), and E. Langlois (1924).

Laharpe, Jean François de (1738-1803), Fr. dramatist and critic, b. at Paris, educated at Collège d'Harcourt. In 1766 he became a member of the Fr. Academy, and in 1786 began to lecture on literature at the Lycée of Paris. He was active in

the revolution, and was imprisoned in 1793. His works include *Warwick* (1763); *Timoleon* (1764); *Pharamond* (1765); *Gustavus Vasa* (1766); *Mélanie* (1770); *Élopes* (1779); *Tangu et Féline* (1780); *Philocèle* (1781); and *Cours de littérature* (18 vols.) (posthumously). See life by A. Boottlingk, 1925.

Lahn, riv. of Germany and a trib. of the Rhine. Rising in the Jagdberg in the Rothaargebirge, Westphalia, its direction is generally W.S.W. It passes through the tns. of Giessen, Marburg, Wetzlar, and Ems, and eventually joins the Rhine at Niederlahnstein, 6 m. above Koblenz. The length of the riv. is 135 m., of which the part from Giessen is canalised.

Lahnda Dialect (of Punjabi language), see under INDO-EUROPEAN LANGUAGES.

La Hogue, Battle of, sometimes called **Barfleur**, fought between the Eng. and Dutch fleets, numbering in all ninety-nine ships, on the one side, and the Fr. under Tourville with forty-four ships, on May 14-16, 1692. The Eng. and Dutch advanced towards La Hogue to destroy the armament which was being prepared to invade England. Tourville was unaware of the union of the allied fleets, and left Brésc confident that treachery would prevail in the Eng. ships, through supposed Jacobite sympathies in England. Off Barfleur he was undeceived, when he came in sight of the allied fleets under Russell. A running fight ensued for three days, during which the Fr. lost twenty-five ships, eighteen of them running aground near the camp of the 'Irish Brigade' and Fr. troops concentrated for transport across the Channel. These eighteen ships were followed up by the Eng. sailors in boats, and were burned under the eyes of the exiled James II.

Lahore, div. of W. Punjab, Pakistan, extending along the r. b. of the Sutlej from the Himalayas to Multan. It contains the seven dists. of Multan, Montgomery, Jhang, Gujranwala, Lahore, Amritsar, and Gurdaspur. The extremes of temp. are very great, and the rainfall uncertain so that the dist. is naturally parched and arid; but it is well irrigated by the Bari Doab canal, and produces large crops of cereals, pulse, and cotton. Area 2700 sq. m. Pop. 1,130,000.

Lahore, city of Pakistan. Prior to the creation of the independent state of Pakistan, L. was the cap. of the dist. of the same name and of the prov. of Punjab, besides being the headquarters of the following dists.: Lahore, Amritsar, Gurdaspur, Gujranwala, Shikhapura, and Sialkot. It is on a trib. of the Ravi, 32 m. W. of Amritsar. It stands in a populous and fertile plain at the junction of sev. railways. The city has two parts, the old tn. and the new, the former, which was of great importance under the Mogul emperors being surrounded by walls until 1881, and including the citadel, where the palace of the Sikh sovereigns stands. It has narrow and winding streets, and contains some splendid mosques and interesting ruins. The new European quarter includes Naukha, Anarkali, and Donald Tn., and contains the Gov. House, the Lawrence Gardens, Punjab Univ., Central

Museum, the new public buildings, etc. The architecture of L. is hardly comparable with that of Calcutta, still less with that of Delhi; and the buildings of recent date, except the high court, are of no particular style or beauty. There are, however, some impressive buildings in the fort built in the period of Jehangir and Shah Jahan. The mosque of Wazir Khan, of the early seventeenth century, and the N. wall of the fort contain fine examples of encaustic tile work. The Bádshahi Masjid of Aurangzebe is a large building but devoid of detailed ornament. Outside the walls, some 8 m. E. of the city, are the tomb of Jehangir at Shahdara and the Shulamar Gardens. The main street of the European quarter known as Donald Tn. is locally called the Mall, and both it and its vicinity were much improved in more recent times, particularly in the lieutenant-governorship of Sir Charles Rivas (1902-7). There is a medical school as well as a univ. There are numerous manu. and its trade is important. It has large railways, being the headquarters of the N.W. railway system, which runs out of L. in three directions. It is the headquarters of the Moslem League and it was here, on March 23, 1940, at their 1. session that the league attacked the federal constitution of the 1935 Gov. of India Act and passed a vague but destructive resolution against it. Yet in the same month, at L., Mr. Jinnah clearly implied that only the Brit. Raj stood between the Moslems and the most hideous exploitation. A para-militarist movement, known as the Khaksar movement, was organised in 1931 to further the interest of the petty bourgeoisie of Indian Islam. In 1939 they attempted to defy the prov. gov.'s ban on all non-official military parades and there were serious riots in L. (Feb. 1940). L.'s most influential newspaper is the anti-Brit. *Zamindar*, founded at the opening of this century. With the approach of Indian independence in 1947 there were disorders in L., especially when it was announced that the Boundary Commission had assigned L. to Pakistan. While the rest of India was celebrating independence, L. was bathed in blood, and for sev. days it was the scene of one of the ugliest outbreaks of communal slaughter in India's hist. (Aug. 1947). By that time there were fewer than 10,000 Hindus remaining of the 300,000 who formerly lived in the city, all who were able having fled into Hindustan. The number of persons killed is not certainly known, but officials estimated the deaths at 3000 inside the ter. for which the boundary forces were responsible. It is probable that the total was at least four times greater, while, but for the presence of boundary forces, the figure would have been forty-fold that number, particularly as there was at the time a vast influx of Moslem refugees into L. from the Indian side of the new frontier. Pop. 671,700.

Lahr, tn. of Germany in Baden, on the Schutter, 9 m. S. of Offenburg. The prin. industries are lithography and printing, and manu. of woollens, leather, tobacco, etc. Pop. 15,000.

Laibach, see LJUBLJANA.

Laidlaw, William (1780-1845), Scottish farmer-poet, a friend of Sir Walter Scott, b. in Selkirkshire, and took up farming. In 1817 he became a kind of steward at Abbotsford, acting as Scott's amanuensis and general adviser. He wrote sev. lyrics and ballads, notably *Lucy's Plittin'*, and compiled part of the *Edinburgh Annual Register* under Scott's direction. After Scott's death he was factor on two Ross-shire estates, and d. at Contin. See the selection from his prose writings with a biographical sketch by Sir G. B. Douglas, 1901.

Laigle, tn. of the dept. of Orne, France, on the Rille, noted for the manufr. of needles. It suffered much damage in the Second World War. Pop. 5900.

Laing's Nek, pass through the Drakensberg, Natal, S. Africa. Altitude from 5400 to 6000 ft. The railway, opened in 1891, pierces it, and previously the road over it was the chief means of communication between Durban and Pretoria. It figured in the Boer war of 1880-81.

Lais, name of two famous courtesans of ant. Greece: 1. Native of Corinth (b. c. 480 B.C.), famous for her greed and heartlessness; among her lovers were the philosophers Aristippus and Diogenes. 2. Native of Hyccara, Sicily (b. c. 420 B.C.), taken to Corinth after the Athenian expedition to Sicily. She was the rival of Phryne, and numbered the painter Apelles among her lovers. She was stoned to death by some jealous women of Thessaly.

Laissez-faire, Fr. phrase meaning 'let alone,' an axiom of some political economists deprecating state attempts to regulate or restrict trade competition. Its origin is attributed to Legendre about 1680, who, in an interview with Colbert respecting gov. interference with commerce, remarked: 'Laissez-faire, laissez-passer.' See also ECONOMICS.

Lalty, *Th*, strictly speaking, means all persons who are not clergy, but the term has been extended to mean all persons who are not of a certain profession, such as law or medicine, as distinguished from all belonging to it.

Lai-yang, city in the prov. of Shantung, China, 60 m. W.S.W. of Weihaiwei. It has manufr. of silk and a peculiar type of wax. Pop. (estimated) 50,000.

Lake, still sheet of water lying in a hollow of the ground and not in direct communication with the sea. Ls. are almost universally distributed, although most common in high lats., and are due to various causes. Crater Ls. are formed by volcanic activity, and are found in Italy, France, Oregon, U.S.A., and in many places where there are dormant volcanoes, while Ls. formed by the subsidence of the roofs of subterranean limestone caves are found among the Jura Mts. The gradual movement of the earth's crust in the formation of mts. is responsible for such Ls. as that of Geneva, while a landslide damming up the course of a riv. is the cause of such L. basins as the Gohna, formed in the Himalayas in 1894. In N. lats. and in the Alps a glacier often forms a dam in a riv. valley, and the

deposit of glacial drift left by a retreating glacier is a very common cause of L. formation, especially in N. America, while glacial erosion is probably the cause of many of the Ls. of Switzerland and Scotland. Underground Ls. are due to a similar decomposition of the rock. The L. waters are either fresh or salt. Salt and bitter Ls. abound in regions where there is small rainfall and no draining riv. Such Ls. as the Dead Sea and Great Salt L. are descended from fresh-water Ls., only becoming saline when the rate of evaporation exceeded the rate of the inflow. The Caspian and Ural Seas are really only isolated portions of the ocean. When the rate of inflow exceeds that of evaporation the L. grows gradually fresher. The greatest group of fresh-water Ls. in the world consists of Ls. Superior, Michigan, Huron, Erie, and Ontario on the E. border between the U.S.A. and Canada. Usually referred to as the Great Ls., they are really inland seas of fresh water. Steamships of ocean-going size traverse them, carrying huge cargoes of wheat and iron ore. L. Superior is 350 m. long and 160 m. wide, with a total area of 31,820 sq. m.; Michigan is 307 m. long and 118 m. wide, with an area of 22,400 sq. m.; Huron is 206 m. long and 101 m. wide, with an area of 23,010 sq. m.; Erie is 211 m. long and 57 m. wide, with an area of 9940 sq. m.; Ontario is 193 m. long and 53 m. wide, with an area of 7540 sq. m. Deepest soundings in L. Superior are 1290 ft. See F. A. Forel, *Handbuch der Seenkunde*, 1901, L. W. Collet, *Lacs*, 1925; and P. T. Jones, *The English Lakes*, 1933. For movements of L. water see SEICHES, and for the forms and biology of fresh-water Ls., see GEOGRAPHICAL DISTRIBUTION.

Lake, in dyeing, an insoluble coloured compound deposited in the fibres of a fabric, soaking the latter first in a solution of a mordant (e.g. alum) and then in a solution or suspension of a dye. Different mordants often give Ls. of different colour with the same dye; thus alizarin with alum gives the L. known as Turkey red, while with a ferrous salt instead of alum the alizarin L. is violet.

Lake Charles, city and par. of Calcasieu, Louisiana, U.S.A., 190 m. W. of New Orleans. It is the centre of a big lumber trade and rice-producing dist., and has rice mills, car shops, and a large woollen industry. There are sulphur mines and oil-fields in the neighbourhood. Pop. 22,000.

Lake City: 1. Tn. and co. seat of Columbia co., Florida, U.S.A., 59 m. W. of Jacksonville. Vegetables and fruits are grown, and cotton and tobacco produced in the neighbourhood. The tn. has some trade in lumber, phosphates, and turpentine. Pop. 6000. 2. Tn. of Wabasha co., Minnesota, U.S.A., 58 m. S.E. of St. Paul. There are flour-mills and carriage factories. Pop. 4000.

Lakedion, see under JEW, THE WANDERING.

Lake District, *The*, in England, lies in Cumberland, Westmorland, and the Furness dist. of Lancashire, and embraces all the prin. Eng. lakes, although its area is

only about 700 sq. m. The scenery and character of the lakes are very varied, ranging from wild, picturesque, rocky precipitous to flat or softly sloping wooded banks. Windermere, the largest of the lakes (10½ m. by 1 m.) lies in the S.E. corner of the dist. and is connected with Rydal Water, Grasmere, Fetherwater and Fathwaite. To the W. rises the Scafell range terminating in the Old Man of Conistone, which rises above Conistone Water and to the E. of the Scafell range lies Westwater (3 m. long) the deepest of all the lakes. In the N.E. is Ullswater with the sequestered Hawes Water to the

(222 ac.) under the foothills of Scafell was acquired in 1912 as also was Wharfedale (208 ac.) Pennine Hill on the opposite bank of the lake was left to the trust. In 1941. See Wordsworth's *Descriptions of the Scenery of the English Lakes* 1823. W. Knight *Through the W. of the Lake District* 1901. A. Bradley, *The Lake District* 1901. W. Collingwood, *The Lake Country* 1902. W. B. Collingwood, *The Lake Country* 1902, 1945. H. Ravenhill *Round the Lake Country* 1909. W. J. B. Baddeley, *The Lake District* 1913. G. Horn, *English Lakes* 1923. H. H. Symonds *W. of the Lake*



DERWENTWATER

On the left is Skiddaw, in the distance is Borrowdale

S.E. To the W. of Helvellyn is Thirlmere which is the reservoir for the water supply of Manchester dammed in 1890-1894. The R. Derwent rising in the Scafell range flows N. through Borrowdale and farms I. Asenithwaite and Derwentwater, the most beautiful of the lakes. Westwards from Borrowdale opens a valley in which the Butterfield and Crummock Water and between these and the Derwent Valley is Linnardale Water. There are several waterfalls the chief being Lodore. Near Derwentwater lies Keswick the chief town of the dist. while Ambleside and Bownes (Windermere) and Hawkshead (Fathwaite) are other places of importance. The chief mts are Scafell Pike (3210) the highest summit in England, Scafell (3162), Helvellyn (3118), Skiddaw (3054) and Great Gable (2949). Rock climbing is practised chiefly on the Scafell rock faces, the Pillar rock, Great Gable and the Langdales (see special guides issued by the Fell and Rock Club). Large tracts of mt. country have been acquired for the public through the National Trust. These include much woodland, farmland, and parkland by Derwentwater, including the famous Friar's Crag, and nearly 600 ac. of Lakdale (qv), Taw House Farm

District 1913. J. H. B. Bell, *The Bozeman and J. Halifax Blackborough British Hills and Mountains* 1940 and A. Lunn and W. V. Harker, *The English Lakes* 1943.

Lake Dwellings, houses built on flat forms supported by piles. See PILLAR DWELLINGS.

Lake Fisheries, see FISHERIES.

Lake Geneva, see GENÈVE.

Lakeland Terrier, wire haired terrier of medium size weighing about 16 lb. The skull is moderately broad, the ears small and V shaped, the eyes dark, the body is short and the tail docked. It evolved as an attendant to the packs of foxhounds in the Fell country, the breed makes a good sporting companion as well as a house dog, being hardy and easily trained.

Lake of the Thousand Islands, see THOUSAND ISLANDS.

Lake of the Woods, lake in the S.W. of the prov. of Ontario, Canada, situated between Lakes Winnipeg and Superior. It is 70 m. in length and owing to its irregular shape the breadth varies from 10 to 50 m. The total area is 1500 sq. m. and the lake contains numerous is., on many of which summer residences have been built. The chief riv. flowing into the lake is Rainy Riv. from the E., and it

discharges into Lake Winnipeg by Winnipeg R. on the N.E.

Lakes (dry powder colours), see **PIGMENTS**.

Lake School of Poets, name given to a group of poets of whom Wordsworth was the acknowledged head and founder, and so called because his home for sixty years was in the Lake Dist. Southey, Samuel Taylor Coleridge, and De Quincey were the chief of the group, and Shelley, Scott, Carlyle, Mrs. Hemans, Matthew Arnold, Edward Fitzgerald, Tennyson, Gray, and Charles Lamb, although not directly associated with the school, were connected with the dist.

Lakewood: 1. Tn. of Ohio, U.S.A., in Cuyahoga co., 7 m. S.W. of Cleveland, of which it is a residential suburb, with a wine industry. Pop. 69,100. 2. Tn. of Ocean co., New Jersey, U.S.A., 30 m. E. of Trenton; a famous winter health resort. Pop. 6700.

Lakh, see **LAC**.

Lakhimpur, dist. in the Brahmaputra valley in Assam, India. It is a prosperous tea-growing centre and has rich coal-mines. There are large oil wells at Digboi, and the oil is refined at Assamerita into kerosene and paraffin. There are also brick and pipe manufact. and extensive timber cutting. In 1833 the dist. was taken under Brit. administration and the headquarters estab. at Dibrugarh. Area 1529 sq. m. Pop. 894,000.

Lakshmi, in Hindu mythology, the goddess of fortune, and the wife of Vishnu, representing his creative energy. She was the mother of Kama, the god of love. The festival of L. is celebrated by the writer caste in Bengal, who, in her honour, purify all writing materials and abstain from using them during the feast.

Lalande, Joseph Jérôme Lefrançois de (1732-1807), Fr. astronomer, b. at Bourg, Ain. After qualifying as an advocate, he was sent to Berlin in 1752 to make observations on the lunar parallax there, and on the successful completion of his task was appointed adjunct-astronomer to the Academy of Paris. He succeeded Delille at Collège de France. In 1802 he instituted the L. prize for the chief astronomical performance of each year. Among his pub. are *Traité d'astronomie* (1762); *Histoire céleste française* (1801), containing his observations of 50,000 stars; and *Bibliographie astronomique* (1803).

La Libertad, see **LIBERTAD**.

Lalin: 1. Tn. in the prov. of Pontevedra, N.W. Spain. It is the centre of a highland agric. dist., and has tanneries and paper mills. Pop. 18,500. 2. Walled tn. in the prov. of Kirin, Manchuria, 120 m. N. of Kirin. Pop. 22,000.

La Linea, see **LINEA**.

Lalita-Vistara, one of the most celebrated works in the literature of Buddhism, being an account of the life and doctrines of the Buddha, partly in prose and partly in verse, and dating, probably, from about the time of Christ. A Tibetan version has been trans. into Fr. by P. E. Foucaux, and there is an Eng. trans. of the Sanskrit version. See *Transactions of the Bengal*

Asiatic Society and E. Burnouf, *Introduction à l'histoire du buddhisme indien*, 1844.

Lalitpur, tn. in the United Prov. of India, in the Jhansi div., 110 m. S.E. of Gwalior. It contains beautiful Jain and Hindu temples, and its chiefs were prominent in the Indian Mutiny. There is a trade in oil-seeds, hides, etc. Pop. 16,800.

Lallans, Germanic tongue, akin to Eng., spoken in S. Scotland and on the coast up to Buchan. It is itself broken into dialects with marked differentiation. It is broad Scots, the Doric; it is the language of some two dozen Scottish poets including Burns, Ferguson, Ramsay, and the early Scottish poets; but it is no longer the speech of the 'educated,' being discouraged by schools, the press, and broadcasting. There is a movement to restore the tongue, led by Hugh MacDiarmid (*q.v.*) and other Gaelic poets.

Lally-Tollendal, Thomas Arthur, Comte de (1702-66), Fr. general, b. at Romans, Dauphiné. He inherited his title from his mother, his father being an Irish Jacobite, Sir Gerard O'Lally. He entered the Fr. army in 1721, served in the war against Austria (1734), and took part in the battles of Dettingen (1743) and Fontenoy (1745). He accompanied Prince Charles Edward Stuart to Scotland in 1745, and was present at the battle of Falkirk. When war was declared between France and England (1736) L. was sent as commander of the Fr. expedition to India. At first he met with some success, but, deserted by the fleet, under Lache, was forced to retire from the siege of Tanjore and of Madras (1758). He was defeated at Wandiwash (1760) and forced to surrender Pondicherry in 1761. As an Eng. prisoner on parole he returned to France to answer charges of treachery, was imprisoned in the Bastille for two years, and finally tried and executed in 1766. See F. M. de Voltaire, *Œuvres complètes*, 1785-89; also h/o by T. Hamont, 1887.

Lally-Tollendal, Trophime Gérard, Marquis de (1751-1830), Fr. politician and author, son of the above, b. in Paris. After his father's execution he devoted himself to proving his innocence, but without complete success. In 1779 he held the office of *grand bailli* of Etampes, and in 1789 was deputy to the States-General for the noblesse of Paris. He took part in the early defeat of Louis XVI., but in 1791 retired to Switzerland and later to England. He returned to Paris during the Consulate, and was created a peer by Louis XVIII. In 1816 he became a member of the Academy. He pub. *Plaidoyer pour Louis XVI.* (1793); *Défense des émigrés français* (1794); and *Le Comte de Strafford* (1795).

Lalo, Edouard (1823-92), Fr. musical composer, b. at Linc. He began composition with chamber music, but, Meyerbeer's and Halévy's music being in vogue, he did not attract any attention until he produced *Fléau* (1865), an opera conceived in the style of symphonic music. But the style was too unorthodox for his critics, and a greater measure of success

came with his concerto in F, *Le Divertissement*; and his striking *Symphonie espagnole*; then followed two operas, *Roi d'Ys* and *Namouna*, the latter his chief work. He was gifted with remarkable novelty in orchestration and warm vivid melody, and his music excited enthusiasm among the younger generation, including such men as Debussy and D'Indy. The *Roi d'Ys* was not performed until the late eighties, so great were the difficulties of securing a *corps de ballet* and of overcoming the prejudices of the management of the Opéra. L. is considered the real precursor of the modern Fr. school, and his influence on Debussy and Dukas is unmistakable. See studies by O. Séré (in *Musiciens français*), 1911, and G. Serivieres, 1925.

La Louvière, industrial tn. in Belgium, in the prov. of Hainaut, 11 m. E. of Mons. It has collieries, blast-furnaces, and stone-lime, and moulding-clay quarries. The chief manufs. are iron, steel, glass, ceramics, and drop-proof products. The second hydraulic lift on the Canal du Centre is at L. L. (see HOUDENG-ATMERIES). Pop. 101,300.

Lama (priest), see under LAMAISM; (animal of Peru), see LLAMA.

Lamachus, Athenian general during the Peloponnesian war and the son of Xenophanes. He was sent into Sicily with Nicias and Alcibiades, and displayed great courage and ability throughout the campaign, but was killed before the walls of Syracuse (414 B.C.). See Thucydides, Aristophanes's *Acharnians*, and Plutarch's *Nicias*.

Lamaism (Tibetan *llama*, spiritual teacher), corrupt form of Buddhism, the religion prevalent in Tibet and Mongolia. Its headquarters are at Lhasa, the cap. of Tibet, where the Dalai Lama ('ocean priest' or 'sea of wisdom') resides. Every one who has taken a vow to attain Buddhahood is a bodhisattva and is repeatedly reborn in order to teach others. The Dalai Lama is the reincarnation of the great bodhisattva Avalokitesvara, the ancestor of the Tibetans, and enjoys supremacy in all temporal affairs. The Tesho Lama, or Pantshen Lama, the incarnation of Amitabha, is regarded as the great spiritual teacher, and though in theory he holds the same rank as the other grand lama, virtually he is less powerful. On the death of either his spirit passes into the body of a male child, who is ascertained by means of the oracles, prayer, and the drawing of lots. Next in rank to the grand lamas are the Chutuktus, who correspond to the cardinals of the Rom. Catholic Church. The Chubul Khans, or priests, are also incarnations, and have under them four orders of lower clergy. There are numerous lamaseries which are the educational as well as the religious institutions of Tibet. At the head of each is a living Buddha in the person of a Chubul Khan. The worship of Buddha and of spirits and saints takes the form of incantations and the beating of diverse musical instruments. A person who is dying must be attended by a lama, so that his spirit may not wander restlessly, but

find a happy dwelling-place in some other human form. See C. F. Köppen, *Die Lamaische Hierarchie und Kirche*, 1859; L. A. Waddell, *The Buddhism of Tibet*, or *Lamaism*, 1895; P. Landen, *Lhasa*, 1906; A. H. Francke, *History of Western Tibet*, 1907; E. Amundsen, *In the Land of the Lama*, 1910; C. Bell, *Tibet Past and Present*, 1924, and *The Religion of Tibet*, 1932; and A. K. Gordon, *Iconography of Tibetan Lamaism*, 1939.

Lama Miao (Mongolia), see DOLON-NOR.

La Mancha, see MANCHA, LA.

Lamarck, Jean Baptiste Pierre Antoine de Monnet, Chevalier de (1744-1829), Fr. naturalist, b. at Bazentin in Picardy. In 1760 he entered the army and won great distinction, but owing to illness he was obliged to leave the service, and subsequently devoted himself to the study of natural science. In 1778 he pub. his *Flore française*. In 1781-82, as tutor of Buffon's son, he visited most of the famous botanical gardens of Europe, and on his return began his elaborate series of contributions to botany, i.e. the *Dictionnaire de botanique* and *Illustrations de figures* (pub. in the *Encyclopédie méthodique*, 1785). In 1779 he became custodian of the Jardin du Roi, and, on the reconstruction of that institution in 1793, was appointed prof. of zoology. In 1809 he pub. his *Philosophie zoologique*, and between 1815 and 1822 his *Histoire des animaux sans vertèbres* (7 vols.). See also LAMARCKISM. See E. Haeckel, *Die Naturanschauung von Darwin, Goethe, und Lamarck*, 1882, and *Lamarck, par un groupe de transformistes, ses disciples*, 1887; E. Perrier, *Lamarck et la transformisme actuel*, 1893; and A. S. Packard, *Lamarck, the Founder of Evolution*, 1902; see also lives by G. F. Kuhnert, 1913, and E. Perrier, 1925.

Lamarckism is a philosophical concept of evolution in which is postulated the theory that evolution is a direct result of such causes as heredity, adaptation, and change of environment. In 1809 Lamarck in his *Philosophie zoologique* stated that nature in bringing forth all kinds of animals improved their organisation gradually, and that these animals were subject to the influence of their environment and were modified in form and habits by this influence. Lamarck assigns as the chief causes of such transformation the use and disuse of particular organs during long periods and the transmission by heredity of such changes. He alleges, for example, that birds which were forced to seek food from water gradually adjusted their forms to the necessity. He rejected the explanation of change of type by great geological changes, and likewise denied the truth of such statements common up to the time of Lyell that some 'vital force' was responsible for the gradual development of type. Instinct, he claimed, was a result of inherited characteristics of habit, proceeding to the conclusion that cellular tissue is the parent of all organic things and the nervous system is the *vera causa* of all acts of intelligence, and that the will is therefore never wholly free. His theories were attacked vigorously at the time of their pub., though prejudice

rather than science informed such opposition; but, with the great interest aroused by Darwin's later discoveries, a mass of support was brought to his teaching, particularly in America, and it is now claimed that Darwin's doctrine of natural selection is strengthened more by Lamarck's conclusions than by Darwin's own collected evidence, which is trans. as manifestations of chance as opposed to cause and effect. In 1876 Darwin himself admitted that further research led him to identify himself with Lamarck's earlier statement that evolution was a result of environment, and it seems there is some justification for the claims of Lamarck's disciples that, whilst Darwin revealed only one aspect of evolution, Lamarck revealed the formations which bear the structure of natural selection. If recent work by the Russian school of plant breeders under Lysenko (q.v.) were confirmed, it might provide support for L. It is clear that the theory of heredity known as Mendelism (q.v., and BREEDING; HEREDITY) is based on a very firm ground, and there seems no place in it for L. See F. Buchner, *Last Words on Materialism*, 1901; E. Haeckel, *Das Weltbild von Darwin und Lamarck*, 1909; - Butler, *Evolution, Old and New*, 1911; and C. E. M. Joad, *Mind and Matter*, 1925. See also bibliography for LAMARCK.

La Marmora, Alfonso Ferrero (1804-1878), It. general and statesman, b. at Turin. He entered the Sardinian army in 1823, and distinguished himself during the Sardinian war of independence (1848). In that year and again from 1849 to 1855 he held the portfolio of war, during which period he reconstructed the Sardinian army. In 1855 he was in command of the Sardinian forces during the Crimean war, and on his return again became minister of war. In 1866 he concluded an alliance with Prussia against Austria, but was defeated by the latter at Custoza, after which he was accused of treason. He wrote in self-defence, *Un po' più di luce sugli eventi militari e politici dell'anno 1866* (1873), which irritated Bismarck, who charged him with having revealed state secrets, and *Un episodio del risorgimento italiano* (1875). See G. Massani, *Il generale La Marmora*, 1880, and M. Straganz, *Zur Geschichte der 'Stossins-Herz'-Despache*, 1922.

Lamartine, Alphonse Marie Louis de Prat de (1790-1869), Fr. poet, b. at Mâcon. His father had been imprisoned for his royalist leanings during the revolution, and L. followed the family traditions by entering the bodyguard of Louis XVIII. in 1814. The success of his *Premières Méditations poétiques* (1819) led to his being appointed attaché to the Fr. embassy at Naples, and during the supremacy of the Bourbons he occupied sev. important diplomatic posts. His *Nouvelles Méditations poétiques* (1823), *La Mort de Socrate* (1823), *Le Dernier Chant du Pèlerinage de Childe-Harold* (1825), and *Harmonies poétiques et religieuses* (1829) led to his being admitted a member of the Academy (1829). A long-projected voyage to the E. led to the *Voyage en Orient* (1835, in

prose). His *Jocelyn* (hist. of a country parson) was pub. in 1836, *La Chute d'un ange* in 1838, and *Les Hébreux poétiques* in 1839; but during this period it was as an orator, not as a poet, that he enjoyed the greatest popularity. In 1835 he was elected 'député' for Bergues, from 1837 to 1848 he was 'député' for Mâcon, and at the revolution of Feb. 1848 he was considered 'the man of France,' as the defender of the 'tricolore' against the 'rouges.' In the provisional gov. he wished to play the role of a Moderate, and lost his popularity, securing very few votes in his candidature for the presidency of the republic. After the *coup d'état* of Dec. 1848 he retired permanently from public life. In his retirement he wrote a series of novels: *Raphaël* (1849); *Les Confidences* (1849); *Les Nouvelles Confidences* (1851); and *Gratiella* (1852). Under the empire he fell into great poverty and wrote such prose works as *Cours familier de littérature* (1858), and inferior poetry, *Les Visions* (1854), to support himself. In 1868 he was voted a generous pension by the gov., but his privations had worn him out, and he did not long enjoy it. In addition to the works already mentioned, he wrote *Histoire des Girondins* (1817); *Trois Mois au pouvoir* (1819); *Histoire de la révolution de 1848* (1849); *Généralie* (1850); *Le Tailleur de pierres d. Saint-Point* (1851); *Histoire de la restauration* (1851-52); *Histoire des constituants* (1854); *Histoire de la Turquie* (1855); *Histoire de la Russie* (1856), all in prose, and the tragedy *Toussaint Louverture* (1856). His *Œuvres complètes* were pub. by Didot in 11 vols. (1849-50). See Lurme, *Histoire poétique et politique d'Alphonse de Lamartine*, 1818; C. Sainte-Beuve, *Causeries du lundi*, vols. i. and iv., 1851-62, and *Portraits contemporains*, vol. i., 1870; C. Alexandre, *Souvenirs sur Lamartine*, 1884; Lady Dornville, *Life of Lamartine*, 1888; A. France, *L'Éclair de Lamartine*, 1893; F. Brunetière, *L'évolution de la poésie lyrique au XIX^e siècle*, 1894; L. Barthou, *Lamartine, orateur*, 1916; A. Pirazza, *The Influence of Italy on the Literary Career of Lamartine*, 1917; J. Bailion and E. Harris, *État présent des études Lamartiniennes*, 1933; M. Bouchard, *Lamartine ou le sens de l'amour*, 1940; and A. J. George, *Lamartine and Romantic Uranianism*, 1940. See also lives by Falconnet, 1840; E. Deschamps, 1893; R. Doumic, 1912; H. R. Whitehouse, 1918; P. Hazard, 1928; L. Larquier, 1929; and L. Bertrand, 1940.

Lamb, Charles (1775-1831), Eng. essayist, b. in Crown Office Row in the Temple, London, and educated at Christ's Hospital. The best record of his school-days will be found in his own essays, *On Christ's Hospital and the Character of the Christ's Hospital Boys and Christ's Hospital Five and Thirty Years Ago*. He was happy there, where he made the acquaintance, which ripened into friendship, of Samuel Taylor Coleridge. L. left the school in the winter of 1789, and in 1792 was appointed to a clerkship in the India House, where he was employed for thirty years. His salary was small, and he had to contribute to the maintenance of his

family, with whom he lived, but he seems to have been fairly contented. The serenity of his mind was, however, rudely disturbed in 1796 when his sister, the poor half mad Mary in a fit of ungovernable temper, killed her mother with a carving knife. A verdict of temporary insanity was brought in and, by the exercise of much kindly influence, the girl was not sent to an asylum but was mercifully handed



CHARLES LAMB (1798)

over to the custody of her brother Charles, who lived with her for the whole of his life. Insanity was in the blood of the family for in the winter of 1795-96 L. himself was confined for six weeks.

The first appearance of L. in print was in the latter year when Coleridge, in the *Poems on Various Occasions*, included four of his sonnets. In 1795 was issued *Blank Verse* by Charles Lamb and Charles Lloyd. His next pub. was *A Tale of Rosamund Gray and Old Blind Margaret* (1798). Soon L. began to augment his income by contributing to the periodicals and news papers and in 1802 he printed his blank verse play *John Woodvil* a tragedy. He was now living with his sister in King's Bench Walk and there and afterwards in Inner Temple Lane they resided for eighteen years. In 1807 the farce *Mr H.* was produced and damned at Drury Lane, but two years later Godwin brought out the famous *Fables from Shakespeare* written by L. and his sister, which work was at once successful, and brought in its train many welcome offers of hack work. He gradually began to develop the vein that reached its greatest heights in the *Essays of Elia* (1823), and he wrote in this style

for Leigh Hunt's *Reflector* and for the *Gentleman's Magazine*. A new periodical, the *London Magazine* was brought out in 1820 and L. was an early contributor his first paper 'Recollections of the South Sea House' being signed 'Elia'. He wrote for the *London Magazine* regularly, and in 1823 collected these essays. In March 1825 he was retired with a pension from the India House on the grounds of ill health. After thirty three years slavery, he wrote to Wordsworth 'here am I, a freed man with £441 a year for the remainder of my life. He did various miscellaneous work during the next years. In 1830 appeared *Album Verse* in the following year *Satan in Search of a Wife* and in 1833 *The Last Days of Elia*. His health now failed, dyspepsia supervened and he died on Dec. 27. One of the brightest features in the last years of his life was the friendship and companionship of Emma Trollope whom L. and his sister Mary had adopted and whose marriage in 1833 to Edward Moxon though welcomed by L. with characteristic unselfishness left him more than ever alone. L. was buried in Edmonton churchyard.

The essays of L. — and it is by his essays that he takes the high place in literature that is his — are universally read and admired. Their humour and literary finish which never suggests the burning of mind night all their individuality each and all endear them to countless thousands for if L. is one of those writers who peculiarly appeal to their brother authors he is one of such writers who appeal also to the larger public. A combination rare among essayists. In all his best writings his personality can be detected and his personality is very attractive. The hard working clerk who devoted his life to the care of his half mad sister is one of the most pathetic pictures in the annals of literature and it is small wonder that Thackeray spoke of him as 'saint Charles'. His personal charm is undoubted and he numbered among his friends and correspondents men so various as Wordsworth, Southey, Coleridge, Hazlitt, Hood, Leigh Hunt and Procter. Indeed to know him was to love him and the circle of those who delighted in him was bounded only by the limits of his gregariousness. The most humane of men he was a looker on at the life that was everywhere around him. He was in the world but never quite of it. He was always detached from reality and had a curious rich vein of phantasy that often revealed itself in his writings. His delightful intimate *Correspondence* was ed. by Canon Linger from 1883 to 1889, and a more complete ed. was brought out by Wm. McDonald (1903 and 1907), who also ed. the *Works* in 12 vols.

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Lamb, Sir Horace (1847-1934). Brit. mathematician and physicist. Educated at Stockport Grammar School, Owens College, and Trinity College, Cambridge, where he was second wrangler and Smith's prizeman, 1872. He was prof. of mathematics at univ. of Adelaide, 1875-85, Owens College and univ. of Manchester, 1885-1920, and a member of the council of the Royal Society at different periods between 1894 and 1922. He wrote on hydrodynamics, the infinitesimal calculus, sound, higher mathematics, etc.

Lamb, Mary Anne (1764-1847). Eng. writer, was the sister of Charles L., the essayist, whose senior she was by eleven years. Mentally unbalanced, she first gave signs of her desperate condition when in 1796, in a fit of fury, she mortally wounded her mother by stabbing her with a knife. She was tried, and a verdict of temporary insanity was brought in; but instead of being consigned to an asylum, she was so fortunate as to be handed over to the custody of her brother, who took charge of her as long as he lived. They stayed always together, went about together, and were devoted to each other. Charles L., if sometimes he found the task of looking after her irksome, never repined. In 1807 she assisted him in the preparation of the *Tales from Shakespeare*, and while he wrote about the tragedies, she dealt with the comedies. She helped her brother to educate his ward, Emma Isola, who made her home with them until 1833, when she married Edward Moxon, the publisher. Mary L. survived her

brother about thirteen years, and d. in St. John's Wood, London. See G. G. Frend, *The Lambs, Fanny Kelly, and some Others*, 1926; W. R. Riddell, *The Tragedy of Mary Lamb*, 1928; and E. V. Lucas, *The Letters of Charles Lamb, to which are added those of his Sister, Mary Lamb*, 1935; life by Mrs. A. Gilchrist, 1883.

Lamb, William, see MELBOURNE, VISCOUNT.

Lamballe, Marie Thérèse Louise, Princesse de (1719-92), daughter of the prince of Carignan, b. at Turin. In 1767 she married Stanislaus, prince of Lamballe, who d. the next year. She was the devoted companion of Marie Antoinette, and was appointed by her superintendent of the royal household. Refusing a means of escape, she was imprisoned with her mistress in the Temple for a week, then removed to La Force and beheaded, and her head, on a pike, was placed in front of the queen's apartments.

Lambarde, William (1536-1601), Brit. jurist and antiquary, b. in London. In 1556 he was admitted into the Society of Lincoln's Inn, and in 1568 he pub. a collection and trans. of Saxon laws. In 1570 he was living near Girenwich, where he founded a hospital for the poor in 1574. His best known book, *A Perambulation of Kent*, was pub. in 1576. In 1578 he became a benchet of Lincoln's Inn, and in 1579 a magistrate of Kent, publishing a treatise on the duties of his office in *Eirenarcha* (1581). In 1600 he became keeper of the Tower records.

Lambart, Frederick Rudolph, see CLAVAN, EARL OF.

Lambayaque: 1. Dept. of N.W. Peru, with an area of 4614 sq. m. It is very dry, and a large portion is desert waste. Cap. Chucayo. Pop. 192,800. 2. Tn. in the above dept., 7 m. from the mouth of Lambayaque R. It contains a fine cathedral and college. The chief manu. are textiles and soap; quinine is also exported. Pop. 9000.

Lambel, see LABEL.

Lamber, Juliette, see ADAM, JULIETTE.

Lambert, Constant (b. 1895). Eng. composer, conductor, and critic, b. in London, son of G. W. Lambert, A.R.A., educated at Christ's Hospital and the Royal College of Music. He is one of the most promising of the younger school of Eng. musical composers. His *Home and Juliet* ballet was produced for Diaghilev at Monte Carlo in 1926, and was followed by *Pomona* at Buenos Aires in 1927. He is a musical director of Vic-Wells ballet. His best known work, *Two Grande* (1929), is an adaptation of jazz idiom to serious music for chorus, pianoforte, and orchestra. Other compositions include *Music for Orchestra* (1931); *Summer's Last Will and Testament* (1936, masque for chorus and orchestra); *Horoscope* (1938, a ballet for Sadlers Wells); a piano sonata, piano concerto, Chinese songs, etc. He has written *Music Ho! A Study of Music in Decline* (1934).

Lambert, Johann Heinrich (1728-77), Ger. physicist, mathematician, and astronomer, son of a tailor and educated at a free school in Mühlhausen, where he was b.

Editor of *Ephemeris*. Much favoured by Frederick the Great, but early d. of tuberculosis. Conducted researches in heat and light and discovered a method of measuring the intensity of light, the 'Lambert,' a unit of brightness, being named after him. (See his *Photometrie*, 1760; *Pyrometrie*, 1779.) His mathematical researches were also useful, but were carried much further by his contemporaries; thus he demonstrated the irrationality of π , but the method of proof of Legendre was simpler. His geometrical researches are valuable, notably the conception of hyperbolic functions in trigonometry. See on this his work *Die freie Perspective* (1750-74). His research in astronomy is reflected mainly in his theorem on the motion of the planets. See M. Steck, *Johann Heinrich Lambert: Schriften zur Perspektive*, 1943.

Lambert, John (1610-94), Eng. general, b. at Calton Hall, Kirkby Malham, Wiltshire. At the outbreak of the Civil war he joined the army of the Parliament, took part in the battles of Nantwich and Bradford, and greatly distinguished himself at Marston Moor (1614). In 1617 he was appointed major-general of the N. forces, and in 1648 was in command of Cromwell's army in Scotland. He fought at Preston and Dunbar, and commanded the right wing at Worcester (1651). He opposed Cromwell's assumption of supreme power, and retired to his villa at Wimbleton during the Protectorate. Under Richard Cromwell he was a member of the 'Committee of Safety.' At the Restoration he was arrested and banished to Guernsey. See life in T. Whitaker's *History of Craven*, ed. P. Morant, 1878.

Lambessa, or Lambèse, tn. of Algeria in the dept. of Constantine, is 5 m. S.E. of Batna. It contains the ruins of an old city. Lambis, formerly the cap. of Numidia, a place of importance in the Rom. Empire. The ruins were discovered by De la Mare. Trade in wines. Pop. 1700.

Lambeth, metropolitan bor. of London, on the S. bank of the Thames, opposite Westminster. L. Palace, the official metropolitan residence of the archbishop of Canterbury since 1179, has a fine portrait gallery and a valuable library. The gardens are open to the public. The great hall and twelfth- (or thirteenth-) century crypt, seriously damaged in the Second World War, have been restored, and the residential part, largely destroyed in 1910, reconstructed. On the riv. bank at L. are the London County Hall, St. Thomas's Hospital (seriously damaged in air raids, 1940-41), and the headquarters of the London Fire Brigade. It is mainly an industrial dist., making soap, chemicals, pottery, and earthenware. L. returns three members to Parliament. Pop. 203,700.

Lambeth Conferences, assemblies of Anglican bishops of the United Kingdom, the Brit. dominions and colonies, and America, held periodically at Lambeth Palace. The idea was suggested by Bishop Hopkins of Vermont in 1851. The first assembly met at the invitation of Archbishop Longley in 1867. Out of 144 bishops of the Anglican Communion,

seventy-six attended the conference. Many Anglican bishops, including the archbishop of York, refused to attend on conscientious grounds, and Dean Stanley declined to allow the closing service of the conference to be held in Westminster Abbey. At the fifth conference, convened by Archbishop Davidson (see DAVIDSON, RANDALL THOMAS, LORD), 241 bishops were present. Matters of urgent and practical interest are discussed, but the conference has not the functions of a synod. See Archbishop R. T. Davidson, *The Lambeth Conferences of 1867, 1878, and 1888, 1896, and Conference of Bishops of the Anglican Communion, Encyclical Letter, etc.*, 1897, 1908.

Lambis, see under LAMBESHA.

Lambrequin, see MANTLING.

Lambton (afterward Meux), Sir Hedworth (1856-1929), Brit. admiral, third son of the second earl of Durham. Joining the navy in 1870, was present at the bombardment of Alexandria and the battle of Tel-el-Kebir, 1882, and became private secretary to the first lord of the Admiralty, successively Earl Spencer and Lord Goschen, 1894-97. He commanded the naval brigade in the defence of Ladysmith during the Boer war. He contested Newcastle in the Liberal interest in 1900; was in command of the royal yacht, 1901-3; second in command of the Channel fleet, 1903; rear-admiral of the cruiser div. of the Mediterranean fleet, 1904-6. He was awarded the K.C.V.O. 1906 and the K.C.B. in 1908, being appointed to command the China station in that year. He became vice-admiral 1911 and commander-in-chief at Portsmouth, 1912-16. In 1911 he assumed the name of Meux. He became admiral of the fleet, March 15, 1915, and was one of the few to hold that high rank in active command. M.P., 1916-18.

Lambton, John George, see DURHAM, EARL OF.

Lamellibranchiata, see BIVALVIA.

Lameness may be due to some deformity of the leg, or to some disease of the structures of the leg. The commonest deformity of the leg which causes L. is the shortening that is likely to follow a fracture. Very many ingenious forms of extension apparatus have been invented to overcome the tendency to shortening. There are also various forms of congenital deformities, such as club-foot, which cause L. In young people disease of the joints causing L. is either tuberculous or acute rheumatoid arthritis. In tuberculous joints there is nearly always permanent L., for the spontaneous cure of the disease is often bony union in the joint, so that no movement is possible in that joint. The commonest example is hip-disease. In older people L. is often due to the various forms of chronic arthritis, and also to degenerative changes in the joints. Nervous disease may produce complete paralysis, or every degree of disturbance of the gait. A limp is often a deliberate gait adopted to avoid pain to some injured part. This group of limbs includes all the minor and transient forms of L.

Lameness, Groggy, see NAVICULAR DISEASE.

Lamennais, Hugues Felicité Robert de (1782-1854), Fr. abbé and philosophical writer, actually named La Mennais, b. at St. Malo, Brittany. His horror at the revolution was occasioned less by his monarchical leanings than by his dismay at the overthrow of religion, and is expressed in his *Réflexions sur l'état de l'église en France pendant le 18^{ème} siècle et sur sa situation actuelle*, pub. anonymously in 1808. At the commencement of the 'Hundred Days' he fled to London, where he fell under the influence of the Abbé Carrou, who induced him to be ordained priest on his return to Paris. The first vol. of his great work, *Essai sur l'indifférence en matière de religion* (1817), stirred all Europe in its violent denunciation of religious toleration. After the revolution of 1830 he founded, in conjunction with Montalembert and Lacordaire, the paper *L'Avenir*, with its motto 'Dieu et Liberté,' advocating an aggressive democracy. His appeal to the pope to support the paper against the Conservative bishops failed, and L. completely severed himself from the Church. His remarkable *Paroles d'un croyant* (1834) marked his new attitude, and henceforward he belonged to the extreme Democratic party, attacking all the opinions which he had hitherto upheld. At the revolution of 1848 he sat as a representative on the extreme left in the assembly, until the coup d'état of Napoleon III. In 1851 finally crushed his hopes for the sovereignty of the people. Among his later writings were *Le Livre du peuple* (1837); *De l'esclavage moderne* (1839); *Politique à l'usage du peuple* (1839); *Le Pays et le gouvernement* (1840); *Une voix de prison* (1840); *Esquisse de philosophie* (1810); *Le Deuil de la Pologne* (1816); and his trans. of *Les Évangiles* (1816) and Dante's *Divina Commedia*. Two so-called *Œuvres complètes de Lamennais* appeared in 1836 and 1844, and *Le Portefeuille de Lamennais, 1816-36*, in 1930. See C. Sainte-Beuve, *Portraits contemporains*, 1846; and lives by P. Mercier, 1891; C. Routard, 1905; F. Dunne, 1922; C. Maréchal, 1925; R. Vallery-Radot, 1931; also L. Ahrens, *Lamennais und Deutschland*, 1930, and G. Goyan and P. de Lallemand, *Lettres de Montalembert à Lamennais*, 1933.

Lamentations, The Book of, called in the Heb. Bibles 'Echah,' from its first word, belongs to the group known as the Megilloth. It consists of five poetical laments dealing with the various calamities which the Judeahites underwent after the capture of Jerusalem by the Chaldeans in 586 B.C. The first three dirges are alphabetical acrostics, each containing twenty-two verses. The fourth is constructed on the same plan, but in this case the verses are arranged in groups of three, each having the same initial letter. There are thus sixty-six verses in all. The fifth lament, which takes the form of a prayer to Yahweh, is not acrostic, but contains the same number of verses as each of the first three. Late tradition ascribes the authorship of Lamentations to the prophet Jeremiah. There are commentaries by Kalkar (in Lat.), 1836; J. Neumann,

1858; Ewald (in his *Dichter*, vol. i., part 2 (2nd ed.), 1866; Engelhardt, 1867; and, particularly, C. Nagelsbach, 1868 (Eng. trans. 1871); C. F. Keil, 1872 (Eng. trans. 1874); and J. Chapman, 1908.

Lamia, L. Ælius (d. A.D. 33), Rom. magistrate, consul in A.D. 3 and prefect of Rome in A.D. 32. He was a friend of Horace, who dedicated an ode to him (i. 26). See A. W. Verrill, *Studies in Horace*, 1884.

Lamia, in Gk. mythology, a female phantom. Logos said that she was a queen of Libya beloved by Zeus, whose jealous wife, Hera, robbed L. of her children, in revenge for which the Libyan queen seized and killed every child she could find. In later Gk. legend she was regarded as a female bogey, and so passed into Rom. mythology, where the Lamie were represented as demons in the form of beautiful women who enticed young men to their arms in order to feed on their blood. In this form L. is represented by Goethe in *Die Braut von Corinth* and by Keats in *Lamia*. See Theodoros; Plutarch, *De Curiosis*; G. F. Abbott, *Macedonian Folklore*, 1903; and J. C. Lawson, *Modern Greek Folklore and Ancient Greek Religion*, 1910.

Laminaria, group of large brown seaweeds (genus of Algae) and typical one of the family Laminariaceae. Some of which (*L. digitata* and *L. saccharina*, called tanglers) are edible, but more generally useful in the manuf. of kelp (q.v.) and manure. The ribbon-like *L. bullosa* and *digitata* attain to a great length. These seaweeds provide the kelp and manure from which are derived chemical salts by burning, the ash yielding soda, iodine, and potash.

Lamination: 1. term in geology for a special formation in the beds of clay or shale strata. In which the bed is formed of thin layers or plates, called laminae, lying parallel to its plane and separating easily when exposed to the weather. They may be the result of separate layers of deposit being placed one on top of the other in successive periods, or they may be due to the pressure of the later deposits. See CLAYAGE. 2. Industrial process by which successive layers of thin materials, paper, glass, wood veneers, etc., are banded together by some adhesive substance.

Laminitis, see HORSES (DISEASES).
Lammas Day, or The Feast of the Wheat Harvest, one of the oldest of church festivals, occurring on Aug. 1. The name is probably derived from the A.-S. *hlaf-mæsse*, or 'loaf mass'; it was customary to offer loaves of bread made from the fresh wheat.

Lammas Lands, lands which were enclosed during the growth of corn and grass, but open for pasture during the rest of the year. Upon Lammas Day (Aug. 1) the fences were taken down from the corn fields and on Old Midsummer Day (July 6) from grass fields.

Lammermoors, or Lammermuir Hills, range of hills in E. Lothian and Berwickshire, Scotland, which extend in an E.N.E. direction from the vale of Gala Water to St. Abb's Head on the North Sea. The

chief summit, Lammer Law, reaches a height of 1733 ft.

Lamond, Frederic (b. 1868), Scottish pianist and composer, b. at Glasgow. He received lessons from Liszt and von Bülow, and though primarily a pianist has composed a symphony, sev. overtures, trios, and sonatas. He was prof. at the Haque Conservatoire in 1917, and at the Scottish National Academy of Music from 1939.

Lamont, Johann von (1805-79), Scottish-gier, astronomer and magnetician, b. at Braemar, Aberdeen-shire. He was sent to be educated at the Scottish monastery in Regensburg, and never returned to Scotland. In 1810 he estab. a magnetic observatory at Bogenhansen. He executed comprehensive magnetic surveys of Bavaria, France, Spain, N. Germany, and Denmark (1819-58), the results of which were pub. in three vols. (1854-59). He announced the discovery of a magnetic decennial period in 1850, and his discovery of earth currents, in 1862, of which his *Handbuch des Erdmagnetismus* (1849) is the standard text-book. He was appointed prof. of astronomy at the univ. of Munich in 1852, and prepared his eleven zone catalogues of 31,674 stars (1866-71).

Lamorcieres, Christophe Leon Louis Juchault de (1806-65), Fr. general and politician, b. at Nantes. He distinguished himself at Jely (1814), and effected the capture of Abd-el-Kader in 1847. He was minister of war under Cavaignac. L. was a leading opponent of Louis Napoleon, who exiled him in 1851. In 1860 he accepted the command of the papal army, but was completely defeated by the Its. at Castelfidardo. His sentence of exile was revoked in 1857, and he d. in retirement near Amiens. See lives by E. Keller, 1875; Flornoy, 1903; and P. J. L. Azan, 1925.

La Motte, Antoine Houdar de (1672-1731), Fr. poet and dramatist, b. in Paris. His first comedy, *Les Originaux* (1693), was a failure, and he contemplated entering a monastery, but the success of his ballet, *L'Europe galante* (1697), led to a series of successful operas and tragedies, of which the most famous is *Indes de Castro* (1723). Other works are a verse trans. of the *Iliad* (1714), founded on Mme Dacier's trans., 1699; *Odes* (1707); *Réflexions sur la critique* (1715); and *Fables* (1719).

La Motte Fouqué, see FOUQUE, FRIEDRICH HEINRICH KARL DE LA MOTTE.

Lamoureux, Charles (1834-99), Fr. violinist and conductor, b. at Bordeaux. He became first conductor of the Opéra at Paris (1878). In 1881 he inaugurated the *Nouveaux Concerts*, better known as *Concerts Lamoureux*. In continuation of the work begun by Colonne. See H. Imbert, *Portraits et études*, 1894.

Lampblack, black pigment consisting of finely divided carbon, and obtained by the incomplete combustion of carbonaceous compounds, the finest L. being obtained in the distillation of coal-tar. It is used mainly in the manuf. of printing ink and as a pigment for oil-painting.

Lampedusa, is. in the Mediterranean Sea, situated between Malta and the African coast, and belonging to Italy, to

the prov. of Girgenti, Sicily. It is 7 m. long and 2 m. wide, with an area of 11½ sq. m. An It. penal colony is here. Pop. 3100. In the Second World War the It. garrison surrendered to the allies on July 12, 1943, after a sharp bombardment from sea and air. Its fall followed very soon after that of Pantelleria. See also ITALIAN FRONT, SECOND WORLD WAR CAMPAIGNS ON.

Lampeter, or Lampeter Pont Stephen, municipal bor. and assize tn. of Cardigan-shire, Wales, situated on the R. Teifi. The name Pont Stephen is derived from an anct. stone bridge over the riv., which was constructed for King Stephen. St. David's College (1822-27) is affiliated to the univs. of Oxford and Cambridge. Pop. 2200.

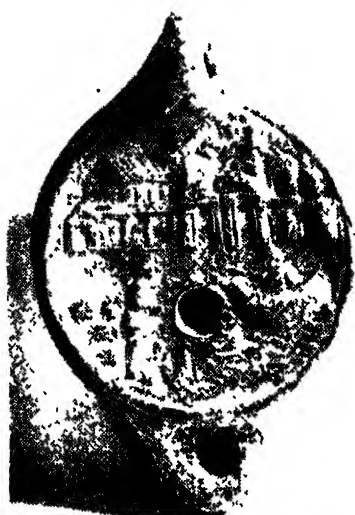
Lampman, Archibald (1861-99), Canadian poet, b. at Morpeth, Ontario, Canada. Graduated at Trinity College, Toronto, and entered the gov. post office. His prin. poetical works are *Among the Millet and other Poems* (1888); *Lyrics of Earth* (1895); and *Allegory*. See memoir by D. C. Scott, 1900; and life by C. Y. Connor, 1929.

Lamprey, or Petromyzon, animal which is often regarded as a fish, but which in fact differs from the true fish in the absence of jaws, paired fins, and scales, and in the presence of the round mouth, a suctional action, and of the peculiar gill-pockets, as well as sev. marked internal differences. The L. and the hag (*q.v.*), to which it is closely allied, are in consequence placed in a class by themselves, known, on account of their round mouths, as *Cyclostomata*. There are three Brit. species, the sea L. (*Petromyzon marinus*), a mottled greenish-brown in colour and over 3 ft. long; the riv. L., or more often lampren, of two varieties (*P. fluviatilis* and *P. planeri*), much smaller. All the varieties are alike in their slimy skins and eel-like forms, with seven pairs of gill-pockets connected internally by a tube and a piston-like tongue. They feed on small animals and the dead bodies of larger ones, but will often fix themselves to living ones, and feed themselves by scraping holes in the skin. They were long regarded as a palatable article of food.

Lamps have from early times been used for illumination indoors, just as torches and lanterns were used in the streets. The word lamp is derived from the Gk. *λαμπάς*, a torch, which, in its turn, is connected with *λαμπεύω*, to shine. A very primitive bronze lamp, found at Enkomi in Cyprus and belonging to the prehistoric age known as the Mycenaean, would seem to refute Athenæus's assertion that *λυχνία* (lamps) were a comparatively recent invention. Yet they did not come into common use till the fourth century B.C., and undoubtedly most of the specimens which have come down to us belong to the Græco-Rom. period. The L. supplied to the humbler citizens were made of clay or terra-cotta. Bronze was used for better-class work. Excavations in Pozzuoli, Rom. sarcophagi, and in Rom. settlements of Britain, have yielded L. of bright green enamel, many of them iridescent, whilst

one of yellow enamel was found at Cyprus. The lamp wrought about 400 B.C. by the sculptor Callimachus for the Erechtheum of Athens was of gold. But this was clearly exceptional, as much for the metal as for the beauty of its design. In size there is considerable variation. Thus the L. preserved in the Brit. Museum vary from 1½ to 11½ in. in height, whilst the length or diameter ranges from 4 to 13½ in. Normally the height is from 3 to 7 in., the length being somewhat more.

It is at least likely that the Gks. borrowed the shape of their L. from the



Ashmolean Museum

A LAMP IN TERRA-COTTA OF THE FIRST OR SECOND CENTURY A.D.

The decoration shows basileia and boatmen in relief: conjectured Roman

Egyptians, for the L. of ant. Egypt are substantially the same as those of later Hellas. The typical lamp consists of a spheroid body, which is the well for the oil, a spout or nozzle (*μυστήριον*), an opening to receive the wick (*θρναλλή*), and a round hole, through which to pour the oil. The round hole is on the upper surface, surrounded by a circular space; opposite the spout, which is a projection from one side of the round body, is the handle, usually ring-shaped so as to receive the forefinger, and with a palmette or some other spreading design on top to give support to the thumb. The Gks. also adopted or invented a beautiful type of pendant lamp. This was supported by chains fixed at opposite ends of a diameter of the well, which was fashioned like a shallow basin. A small flat stand was usually attached

to the base to correspond with the under surfaces of the clay L., which were invariably flattened to allow of their being set on a table. But the above are only types, and the few illustrations that have lasted to our day afford ample proof that the Gk. craftsmen were far too ingenious and artistic merely to reproduce year in and year out the same patterns. And the same holds good of the Rom. artificers, who carried on the traditions of their predecessors. Sometimes the nozzles were multiplied to two, seven, or even sixteen, and were skilfully contrived so as to have a place in the general scheme of design. There are L. in existence in the form of a dog curled up, a captured deer, an elephant, a ram's and a greyhound's head, and a snail shell. Others represent the head of Pan, grotesque heads, or the head of Negroes. One is shaped like a fir-cone, another like a knight on horseback, and a third like Selene with her bull-drawn chariot. All kinds of places are found for the hole leading to the oil well, as, for instance, the top of the figure's head, or the mouth of the cup which some devotee of Bacchus holds before him. A favourite ornament was the figure of a god or goddess, like Zeus or Demeter, or of a mythological hero like Hercules. An exquisite bronze lamp, found in the *Thermae of Julian* at Paris, gives an excellent idea of the standard of domestic art to which the ancients arrived. It may be seen in the Brit. Museum, but a bare description is here appended. Spouts, decorated underneath with heads of satyrs, project gracefully at either side of the main bowl springing out from the bowl in front and behind are vigorously carved lions. In place of the usual chains are two dolphins, whose heads rest one on each spout and whose tails meet in mid air above the bowl's centre. A single chain attached to the fishes' tails served to suspend them. A very elaborate and beautiful Etruscan lamp, believed to date back to the fifth century B.C., was found in 1810 at Cortona. On the under surface is the head of Medusa, whilst the sixteen spouts are decorated alternately with a satyr and a siren, and between them are masks of riv. gods.

One or two interesting customs, which the old Gks. and Romans observed in connection with L., have been handed down to us by Pausanias and others. Men used to honour their dead by placing lighted L. with incense on their tombs. A New Year's gift sometimes took the form of a lamp. A favourite device for such a present was that of two Victories holding a tablet bearing the motto 'ΑΝΝΥ ΝΟΒ ΕΛΛΕΥΡΕ ΦΕΛΙΧ'. L., moreover, seem to have played a part in religious ceremonial. Thus there were bronze L. hanging from the marble altar in front of Hermes's statue in the market-place of Pharos in Achaea. Whenever a believer came by night to consult this oracle the first step in his ritual was to light the lamp that he might see the object of his prayer. L., little different from those described above are still used in Palestine, Persia, and other countries of the E. In medieval times

cathedrals and castles were often illuminated by highly decorated hanging L., iron being a favourite material. In Rom. Catholic churches an oil-burning lamp must be kept burning before the Blessed Sacrament, and this practice is being revived in the Anglican Church. In the early days of Christendom the monogram of Christ was a common motive for decoration. See H. B. Walters, *Greek and Roman Lamps* (Brit. Museum), 1914.

In the combustion of a fixed oil in L., the oil undergoes destructive distillation, and at the burning point is resolved into a gaseous mixture. The viscosity of fixed oils makes it necessary to adopt some device supplementary to the capillary action of the wick for maintaining at the level of the burner a supply of oil sufficient to support uniform combustion. But the mineral oils are sold as mixtures of volatile hydrocarbons which give off inflammable vapours at comparatively low temps., and in consumption in L. they come to the burning point in the condition of vapour. In the Argand burner (*q.v.*), patented first in England in 1784, the inner tube is open throughout and to it a current of air passes from below, and, being carried upwards by the draught of the flame, atmospheric oxygen for combustion is supplied as well to the inner circumference as to the outer side of the flame. It then remained to devise means by which the current supplied to the outer circumference of the flame could be regulated and strengthened, and this was effected by a glass chimney which rested on a perforated gallery fixed below the level of the burner.

Lampsacus, anc. Gk. colony in Mysia, Asia Minor, on the Hellespont and opposite the modern Gallipoli. The modern vil. of Lapsaki probably stands near its site.

Lamp-shell, genus of Brachiopods.

Lampyrus, see GLOW-WORM.

Lanark, royal, municipal, and police burgh, and co. tn. of Lanarkshire, Scotland, situated on high ground near the r. b. of the Clyde 31 m. S.E. of Glasgow by rail. It is a famous holiday haunt on account of the falls of Clyde, and its historical association with Wm. Wallace. The chief industries are cotton spinning, druggery and winey weaving, nail making, and there are large cattle and sheep markets. It has a golf-course and a good race-course, while the presence of the Glasgow consumption sanatorium just outside the tn. is a proof of its healthiness. Pop. 6000.

Lanark, New, 14 m. S.W. of Lanark, was founded by David Dale and Richard Arkwright in 1783 as a cotton-spinning centre. Robert Owen, the social reformer, was manager of the mill from 1799 to 1828. Pop. included with Lanark.

Lanarkshire, S.W. inland co. of Scotland, bounded N. by Dumbartonshire and Stirlingshire. The shire is divided into three wards, the Upper, which lies to the S. and includes more than half the co., the Middle, and the Lower. The greatest elevations are to be found in the S., Culter Fell (2454 ft.) being the highest on the borders, and in L. itself Green Lowther

(2403 ft.). The valley of the Clyde (Clydesdale) runs through the co., and the surface slopes gradually from the heights in the S. to the firth of Clyde in the N.; the Clyde with its numerous tribs., of which the chief are the Medwin, Mouse, Calder, and Kelvin on the right, and the Douglas, Nethan, and Avon on the left, drains the co. There are a few lochs in the N., but they are unimportant, and the falls of the Clyde at Bonnington, Corra, Dundoff, and Stonebyres are the most famous features in the scenery. Grain is not grown very largely, oats being the main crop, but cattle and sheep are reared extensively, also pigs, and a fine breed of draught horses known as Clydesdales. Dairy farming is productive, especially certain kinds of cheese, and fruit-farming is carried on in the Clyde valley, strawberries being grown in great quantities. In the N. market-gardening flourishes, a considerable amount of glass being in use. The main industries are the coal and iron fields, of which Glasgow forms the centre; shipbuilding at Glasgow, Govan, and Partick; cotton, woollen, and linen manuf. at Glasgow, Rutherglen, Hamilton, Lanark, etc.; engineering at Coatbridge, Kinning Park, Wishaw, etc. The canals include the Monkland Canal in the N., and the Forth and Clyde Canal in the N. and N.W. The co. is divided into six parl. divs., each returning one member, and there are sixteen burgh constituencies. The co. has been the scene of some stirring historical events, Wallace being one of its chief heroes, while Mary Queen of Scots was defeated at Langside in 1568, and Claverhouse was defeated at Drumclog in 1679 by the Covenanters, who in their turn were defeated at Bothwell Brig the same year; it also contains, among others, the castles of Bothwell and Douglas. The area is 882 sq. m. Pop. 1,517,900—the most populous co. in Scotland. See C. V. Irving and A. Murray, *The Upper Ward of Lanarkshire*, 1864, and W. A. Cowan, *History of Lanark* (Glasgow), 1893.

Lancashire, maritime co. in the N.W. of England, bordering on the Irish Sea. The coast-line, though flat, with fine stretches of sand, is broken by inlets, of which the largest are Morecambe Bay and the estuaries of the three rivs., the Uddon, the Ribbles, and the Mersey. Morecambe Bay also divides the dist. of Furness with the is. of Walney from the rest of the co. There are many popular seaside resorts on this coast, the chief of which are Blackpool and Southport. The most important rivs. are the Mersey, into which flow the Irwell and Sankey, and the Ribble, rising in Yorkshire and flowing down to Preston, into which flow the Hodder, Calder, and Darwen. The surface of the co. is varied, the N. being hilly, except near the coast, and including part of the beautiful Lake District, Conistone and part of Windermere being in L. The E. boundary is also hilly, taking in part of what is known as the Pennine uplands, the highest point being Blackstone Edge (1323 ft.). In the S. there are some beautiful stretches of moorland, and along the coast and the R. Mersey there is a plain, once peat

mosses, but now partly reclaimed; the largest of these is Chat Moss (q.v.), between Liverpool and Manchester.

L. contains one of the largest of England's coalfields, covering about 400 sq. m., and in its area are included all the big cotton-manufacturing towns, Manchester, Burnley, Blackburn, Wigan, Bolton, Preston, etc. Fire-clay, sandstone, limestone, slate, particularly a fine blue slate, and salt are quarried. Fire-clay, clay, and stoneware are worked. In Furness red hematitic iron is found. Cattle are reared in considerable numbers, cows being kept to supply the large demand for



John H. Stone

THE TOWER AT BLACKPOOL, LANCASHIRE

milk, and the hill pasturage is good for sheep; oats and wheat are the chief crops. L. is one of the centres of the cotton trade for the world. Before the First World War 400,000 hands were employed in this manuf. The figures for April 1949 were: in cotton spinning, doubling, etc., 180,900; in cotton weaving, etc., 142,200; giving a total of 323,100. The industry dates from 1611, though it is not until 1789 that we find steam first used at the mills in Manchester, and a rapid development followed. There is a large manuf. of all implements and machines used for the weaving industry; iron and steel are manufactured at Barrow-in-Furness, there are glass works at St. Helens, watch-making at Preston, and leather works at Warrington. There are also numerous alkali, soap, candle, oil, and other chemical works. L. contains the great seaport of Liverpool with its vast shipping trade, and the lesser ports of Manchester, connected with the sea by means of the Ship Canal (1894), Barrow-in-Furness, Heysham, and Fleetwood, with their steam-

ship services to Belfast. The Bridge-water Canal is an important means of communication. The co. is one of the eos. palatine, and is part of the duchy of Lancaster, the office of chancellor of the duchy and co. palatine dating back to 1351. It is divided into six hundreds, and returns sixteen members to Parliament. It contains some fine ruins and anc. churches, and is famed for the number of its old co. families. The area is 1887 sq. m. Pop. 4,829,500. See H. Fishwick, *A History of Lancashire*, 1894; *Victoria County History: Lancashire*, 1906 7; B. Bowker, *Lancashire under the Hammer*, 1928; J. C. Walters, *Lancashire Ways*, 1932; W. Smith, *Lancashire*, 1911; A. Mee, *Lancashire*, 1942; and H. C. Collins, *The Roof of Lancashire*, 1950.

Lancashire Fusiliers, The. Raised in 1688 to support William III, the regiment early saw service in the W. Indies, and later at Dettingen (1743), Fontenoy (1745), and Culloden (1746). Wolfe was lieutenant-colonel for a time. It distinguished itself at Minden (1759). Under Gen. Burgoyne, it served in the Amer. war, and in 1782 was styled the E. Devon Regiment. It served under Abercromby in Egypt in 1801 and in 1806 it took part in the battle of Maida; it then went to the Peninsula, where it served under Wellington from 1808 (Vimiera) to the end of the campaign in 1814. It formed Napoleon's guard during the last two years of his captivity (1820-21), furnished the guard at his residence on the night of his death, and its grenadiers bore him to his grave. Further honours were won in the Crimea, at the battles of Alma and Inkerman, and at the siege of Sebastopol. It went to India in 1857, and took part in the siege and capture of Lucknow during the mutiny. A battalion served in China and Japan during the occupation of the treaty ports after 1863. It took part in Kitchener's advance on Khartoum (Egypt) and his victory at Omdurman. During the S. African war, 1899-1902, it took part in the relief of Ladysmith. During the First World War it raised thirty battalions, which served in France, Flanders, Macedonia, Gallipoli, and Egypt. The name 'Lancashire Landing' in Gallipoli commemorated its bravery in that historic campaign (see also GALLIPOLI CAMPAIGN). During the Second World War eight battalions were in service in various theatres. At the outbreak the 2nd Battalion went to the W. front with the 4th Div. Three Territorial battalions, the 1st/5th (Bury), 1st/6th (Rochdale), and the 1st/8th (Broughton), soon followed. After the evacuation of Dunkirk the 1st/5th and 1st/6th were converted to the 108th and 109th Regiments (I. F.). Royal Armoured Corps, while the 9th was transferred to the same corps as the 143rd Regiment. The 7th (Salford) Battalion, or, strictly, the 39th Searchlight Battalion, Royal Engineers, became in 1940 the 38th Searchlight Battalion, Royal Artillery (I. F.), and, after serving in the defence of S. England for three years, reverted to its original status in 1941. The 1st/8th and the 10th (Exeter) Battalions

sailed to India, where the 1st Battalion had been stationed since the beginning of the Sino-Jap war. Meanwhile the 2nd Battalion after secret training in Scotland took part in the invasion of N Africa in 1942. After serving also in the invasion of Sicily and the whole of the It campaign this battalion was selected from the famous Eighth Army (qv) to be the Brit garrison force in Vienna. It was during the storming of the Gustav line that 1 Fusilier Frank Jefferson was the VC. The 1st 1st/8th and 10th later served in India or Burma, the 11th in Italy, and the 2nd 5th in the battle of Normandy. After the termination of hostilities the 1st 5th 2nd/5th, 1st 6th 7th 9th and 11th Battalions were disbanded. See J C Lister *The History of the Lancashire Fusiliers 1914-18, 1919*.

Lancaster, Sir James (d 1618), Eng navigator and statesman first sailed in a disastrous expedition to the E Indies in 1591. Lancaster found a channel 50 mi wide in the Arctic regions leading from Baffin Bay between N Devon and Corkbura Land and continued W by Harrow Strait was named after him by Baffin on account of L's voyages in search of the N W Passage. See *Voyages of Lancaster* ed by Sir Clements Markham for the Hakluyt Society (1877).

Lancaster, Joseph (1775-1839) Quaker educationist, founded a school in London to carry out his principles. His vanity and improvidence however soon involved him in debts but in 1808 these were paid by wealthy patrons who founded the Royal Lancasterian Institution later known as the Brit and Foreign School Society. In 1818 he became bankrupt and emigrating to Canada founded a school in Montreal which failed financially.

Lancaster 1 City, nkt tn and riv port of Lancashire, England, and also the co tn. At the head of the Lune estuary, 7 m from the sea, 52 m N W of Manchester and 230 m from Lond in by rail, situated on rising ground crowned by its old castle and church. It commands a fine view of the surrounding country and of Morecambe Bay some 3 m below. The riv is crossed here by a five-arched bridge built in 1788 and to the N of the tn a canal is carried over the riv by an aqueduct.

The castle which with the adjacent priory and par church of St Mary is the dominating feature of L stands high above the city. Beneath Hadrian's Tower there is evidence of Rom construction and some of the foundations are said to be the work of Constantine the Great. But the castle as it exists to day was begun by Roger de Poitou (c. 1094), though the only Norman work remaining is the Lungess Tower used as a beacon at the time of the Sp Armada. The gateway, with its massive towers and 9-ft thick walls, is one of the finest medieval houses in existence. The Gateway Tower was planned by John of Gaunt and in 1822, a statue of him was erected over the gateway. The gatehouse gives access to what was for some years a prison. The castle contains a court-room in which are

held the assizes, quarter sessions, and court. The famous Lancashire wethers were tried here in 1612, when seventeen persons were condemned for witchcraft on the evidence of one boy. The castle library possesses a unique collection of Eng laws dating from 1221, and in the museum in Hadrian's Tower is a Rom altar and a varied collection of instruments of torture. The priory church



JOHN OF GAUNT'S GATEWAY
LANCASTER CASTLE

stands on the N side of Castle Hill. Although the present edifice is mainly Perpendicular (fifteenth century) there has been a Christian shrine here for thirteen centuries and it also incorporated the ancient Rom basilica of the Rom camp. The tower of the priory was built in 1759. The delicately carved canopies of the chancel stalls dating from about 1340 are probably the finest of their kind in the country. Notable too are the old font, cover, the pulpit, the Saxon doorway and a wealth of monuments, brasses and stained glass windows. A striking feature of the church is the memorial chapel of the King's Own Royal Regiment, one of the earliest regimental chapels to be erected. The imposing Rom Catholic cathedral of St Peter in East Road was erected in 1859, the seat of the Rom Catholic diocese of L, dating from 1921. Remarkable for colouring and workmanship are its chancel roof, frescoes, and canopies.

The tn hall and its surroundings were presented to the tn by Lord Ashton (qv) at a cost of £155,000, the architect being L W Mountford, designer of the Central Criminal Court, Old

Bailey. In the group of buildings known as Storey Institute (after the donor Sir Thomas Storey) are the school of arts and crafts, the technical college, and the art gallery. The L. Royal Grammar School (accommodating 500 boys) was founded as an old 'free grammar school' under the will of John Gardynier of Bailrigg, dated 1472, rebuilt in 1882; in 1881 the school was moved to its present site on the outskirts of the city. The public library in Market Square is a modern building opened in 1932. Also in Market Square is the L. museum, once a tn. hall, erected in 1781. In the elaborate domed Ashton Memorial in Williamson Park, designed by John Belcher at a cost of £87,000, are a natural hist. collection, palm house, and observatory. Another public park is Ryelands (45 ac.), including a former residence of Lord Ashton. Although still engaged to a certain extent in shipbuilding and repairs, the prosperity of L. to-day mainly depends on oilcloth and linoleum manuf., cotton spinning, furniture and cabinet making, textile manufacturing and dyeing, rayon, plastics, and engineering. L. is not, however, wholly industrial, although in recent years new and important industries have been estab. in the city. There can, however, still be found many of the attributes of an old Eng. market tn. and L. itself is the centre of a large agric. community.

History.—L. has a long hist. and even before the Rom. occupation the tn. was of some importance. As *Loyn-castre*, *Lone-castrum*, or *Lancecastrum* it was fortified by the Romans, and traces of their walls are still to be seen. Rom. remains in the shape of Samian ware and tombs leave no doubt that it was a Rom. station of great importance. Before the union of England and Scotland L. was often the quarry of Scots raiders, who on sev. occasions (1311, 1322, and 1389) destroyed the tn. It suffered also in the Wars of the Roses, when it was more or less depopulated, and in the Civil war, when it was captured by Cromwell in 1643, retaken by the earl of Derby in the same year, and again taken by the parl. troops in 1648. In both Jacobite rebellions, the 'Fifteen and the 'Forty-five, the rebels occupied the tn. L. received its first charter in 1193 from King John, then earl of Mortain, and the second in 1199, also from John. Henry II granted the ownership of the tn. and castle to his son Edmund, first earl of Lancaster. In 1267, and they have been part of the duchy of L. since its creation. The castle devolved by marriage to John of Gaunt and, from the reign of his son Henry IV., it has been vested in the Crown, all the subsequent holders of which have been dukes of Lancaster. In 1937 the title and dignity of a city were conferred on the borough by King George VI. on the occasion of his coronation. Population 51,000. See S. Clarke, *Lancaster*, 1811; S. C. Hall, *Lancaster Castle*, 1843; and R. Simpson, *History and Antiquities of Lancaster*, 1852.

2. Co. seat of L. co., Pennsylvania, U.S.A., on the Conestoga R., 69 m. W. of Philadelphia. It is a thriving industrial

tn. with large tobacco warehouses, cotton mills, breweries, tanneries, iron works, machine works, silk mills, and chocolate factories. There are also cork and linoleum works, umbrella factories, and plants for making watches, clocks, etc. It possesses trade schools and a theological college. Pop. 61,300. 3. Co. seat of Fairfield co., Ohio, U.S.A., on the Hecking R., 31 m. S.E. of Columbus. There are various industrial concerns. Pop. 22,000.

Lancaster Bomber, chief R.A.F. heavy bomber of the Second World War, the L. was a product of A. V. Roe & Co. Powered by four Rolls-Royce Merlin or Bristol Hercules engines, it carried a load of 10 tons; its extreme range, with a smaller load, was 3000 m., and its top speed 275 m.p.h. The fuselage housed three power-driven gun-turrets and was 60 ft. 4 in. in length; the wing-span was 102 ft. Though participating in some daylight raids, it was chiefly employed in night operations, being introduced in 1942. The Lancastrian and York transports, and the Lincoln bomber, were variations of the L. design.

Lancaster, House and Duchy of. The house of L. originated in the second son of Henry III., Edmund Crouchback, who was created earl of L. and Leicester in 1267. The duchy of L. was created by royal charter in 1362, when John of Gaunt, who married Blanche, the sole heiress of the Lancastrian estate, was made duke of L. in default of male heirs. Their son, Henry IV., seized the throne from Richard II., reigned from 1399 to 1413, and was succeeded by Henry V. (1413-22). During the reign of Henry VI. (1422-61 and 1470-71), the Wars of the Roses broke out, in which the Lancastrians were opposed by the house of York, descended from Lionel, duke of Clarence, elder brother of John of Gaunt. The duchy of L. was annexed to the Crown by Edward IV. in 1461, but up to the present time the revenues are held separately from the hereditary revenues of the Crown. Formerly the chancery court of the co. palatine was held at Preston and the duchy court at Westminster, but since 1873 the administration of justice has been assimilated to that of the rest of England. The office of chancellor of the duchy, being a political appointment, is generally held by a member of the Cabinet, and the stipend is £5000 per annum. See T. Taswell-Langend, *Constitutional History*, 1875; W. Stubbs, *Constitutional History*, 1875; J. Gardner, *The Houses of Lancaster and York*, 1886; Sir J. H. Ramsey, *Lancaster and York*, 1892; and J. E. A. Jolliffe, *Constitutional History*, 1937.

Lancaster Regiment (The King's Own Royal Regiment). This famous regiment, the old 4th Foot, was raised in 1680 for the defence of Tarror. Later it fought under William III. in Ireland and Flanders; and Namur, 1695, is its first battle honour. Its badge, 'The Lion of England,' is supposed to have been granted about this time. Under Queen Anne it became the Queen's Marines, and served under Adm. Rooke at the capture of

Gibraltar, 1704. George I. conferred the title of the King's Own in 1715. During the Amer. War of Independence it served in the prin. actions. During Moore's retreat on Corunna it distinguished itself, and later under Wellington in the Peninsula and at Waterloo. Further honours were gained in the Crimea, Abyssinia, and S. Africa. During the First World War it raised sixteen battalions which served in France, Flanders, Macedonia, Gallipoli, Egypt, and Mesopotamia. In the Second World War the regiment was part of the Chindit force in Burma. Other battalions were part of the Fifth Army and fought on the It. front. The king is colonel-in-chief of the regiment.

Lance, George (1802-64), Eng. painter, b. at Little Easton, Essex. He studied under Haydon, confining himself to historical art, but discovering where his real bent lay by the copy of a group of fruit merely as a study of colour, he afterwards devoted himself entirely to still life and fruit studies, sev. of which are in the National Gallery and Tate Gallery.

Lance-corporal, in the Brit. infantry, a non-commissioned officer below the rank of corporal, or an acting corporal; those on the estab. of a battalion wear a single chevron on each sleeve. A lance-sergeant is a corporal acting as a sergeant.

Lancelet, see AMPHIOXUS.

Lancelot du Lac, famous knight of the Round Table, and secret lover of Queen Guinevere. He was the son of King Ban of Benic and Queen Elaine, who were driven out of their kingdom by Claudas. L. was brought up at the court of a water-fairy, the Lady of the Lake, and when he reached manhood he offered his services to King Arthur, who made him a knight. His love for Guinevere was disclosed to Arthur by the sons of Lot, and at the end of the ensuing war he retired to a monastery. He was, by Elaine, the father of Sir Galahad. The story of L. belongs to the later romance of the Arthurian cycle. See eds. of the prose *Lancelot*, 1468 and 1533, and Dutch trans. by M. Jonckbloet, *Roman van Lancelot*, 1850; H. Hahn (ed.), *Lancelot*, 1845; J. L. Weston, *The Legend of Sir Lancelot du Lac* (vol. xii. of Grimm Library), 1901; and J. Boulenger, *Romans de la Table ronde*, 1922-23.

Lancers, cavalry regiments so named from their prin. arm being, or having been, the lance. In the days of chivalry the long lance was the chief weapon of offence, but in 1597 it declined in importance, owing to the introduction of a serviceable firearm, with which Dutch and Eng. carabiniere defeated the Spaniards in the Netherlands. At the battle of Dunbar, 1650, however, Cromwell's troops suffered severely from Scottish L. Frederick the Great included a lancer troop in each of his hussar regiments, the men of which were armed with a long pistol, sword, and lance. At this time there was no pennon on the lance. During the Napoleonic period the lance was seen on many battlefields in the hands of Poles, Cossacks, and Arabs. After Wagram L. began to appear in the Fr. ranks. A regiment of

Polish L. was raised in 1807 in the Fr. service, and in 1811 Napoleon converted nine dragoon regiments into L. The Fr. L. in the Peninsular war were very prominent at Albuera, and again at Waterloo they sorely tried the Brit. dragoons and hussars. Soon after Waterloo a few regiments of Brit. dragoons were converted into lancer regiments.

The lance, though a good weapon of offence, is very difficult for parrying. The long lances of the Cossacks proved a hindrance to them in the Moscow campaign of 1812 for this reason. During the first half of the nineteenth century the 16th L. distinguished themselves in India by their work with the lance. The 9th and 12th L. also gained fame in India and on S. African fields. In the Khartoum expedition, under Lord Kitchener, the 21st Ls. charge was a notable feature of the campaign. During the S. African war, 1899-1902, the 5th L. made a very effective charge at Eland-laagte in 1899. In spite of these achievements the lance declined in favour soon after this campaign. The lance found little scope in the First World War. During Aug. and Sept. 1914 in France the 12th L. at Cerniz and the 9th L. at Moncel afforded the only instances of effective charges. The 21st L. also found employment on the N.W. frontier of India against the Mohmands, and the 2nd Indian L. under Allenby in Palestine wrought havoc amongst the Turks with their charges. Later the lance was retained solely for ceremonial purposes, but to-day it has disappeared with the conversion of lancer regiments into armoured units. As armoured troops or armoured car units the L. fought in many great battles of the Second World War, notably in the heavy fighting in Normandy in the difficult bocage country, June-July 1944, where the 24th L. especially distinguished themselves. As part of the famous Eighth Army in N. Africa and on the It. front the 9th Queen's Royal L., 12th Royal L., 16th/5th L., 17th/21st L., and 27th L. were all conspicuous.

Lancers, square dance of Fr. origin, consisting of five figures, each consisting of sev. steps, eight people composing the set. It was highly popular in the nineteenth century and, like other old-time dances, would appear to be coming back into favour.

'Lancet, The', a leading Brit. medical jour., founded in 1823 by a surgeon named Thomas Wakley, who used it to attack the gross abuse then existing in the administration of hospitals. Wakley was assisted by Cobbet, Wardrop, Sir Wm. Lawrence, and Dr. Arthur Hill Hassall, and was succeeded as editor by his son and grandson.

Lancet Window, see ARCH and ARCHITECTURE, Early English.

Lancewood, straight-grained wood of great strength and flexibility. The wood is obtained from two trees belonging to the order Anacaceae, the black L., which is used mainly by coachbuilders for the shafts of traps, being obtained from the *Quaeria virgata* of Guiana and the W. Indies, and the yellow L. (*Duguetia*

quitlarensis), also found in (Gulana, and used by the Indians for arrow-heads.

Lanchester, Henry Vaughan (b. 1863), Eng. architect. He was educated privately and began practice in 1889. Among his works are Cardiff city hall and law courts; Central Hall, Westminster; council hall, Lichnow; and Leeds Univ. F.R.I.B.A., 1906. He was a member of the committee which advised on the site for New Delhi. He ed. *The Builder* (1910-1912), and was consulting architect to London Univ., 1929-31. Pubs.: *Town Planning in Madras* (1918); *Talks on Town Planning* (1924); and *The Art of Town Planning* (1925).

Lanchester, rural dist. and tn. of Co. Durham, England. In the neighbourhood are remains of a Rom. station, and Rom. relics have been found. The tn., situated near Durham, is industrial, and contains coal-mines, steam saw-mills, and timber yards. Pop. 16,300.

Lanchow, cap. of Kansu prov., China, on the Yellow R., situated in a country of red loam hills from which the wind and river have for centuries carried the soil which now covers most of N. China. Its natural potentialities are almost unlimited. Industrial co-operatives are gradually opening up the heart of the country from L. as centre. L. is the terminus of the Russian highway into China, the one land route into modern China. Transport, however, from L. into China is very primitive and there is as yet no railhead. There is an airport near the tn. from which aircraft fly to Russia. It is the trade centre of the dist., which produces coal, silk, turs, and coarse textiles. Pop. 500,000.

Lanciano, tn. in the prov. of Chieti, Italy, is 13 m. S.E. of Chieti. It is the old Anxanum, and contains Rom. remains and a cathedral, the facade of which was struck by a bomb in the Second World War. It manufs. linen and hemp, and trades in country produce. Pop. 20,000.

Lancing College, public school near Shoreham, Sussex, was founded in 1848 by the Rev. Canon Woodard in connection with an educational scheme in Sussex which embraces the schools of Hursley and Airdingley. There are eight leaving scholarships, of £50 per annum, to Oxford Univ.

Lancet, Nicolas (1690-1715), Fr. painter of *filles galantes*; b. in Paris. Studied under Pierre d'Ulin, an Academy prof., but left him for Claude Gillot because the latter was the master of Watteau whom he met and whose style very strongly attracted him. The friendship between L. and Watteau does not, however, seem to have endured; it is said that the success L. achieved with two works which he exhibited and which were attributed to Watteau caused the rift. L. was a most laborious worker and his pictures numbered about 800. His first important works were 'Le bal champêtre' and 'Une Dame dans un bosquet' (1714). His 'Four Ages of Man' is in the National Gallery and the Wallace Collection has his 'Une Conversation galante.' L. shows truth and naturalness and easy and

graceful movement, but he lacks the peculiar charm of his exemplar Watteau.

Land, as the ultimate source of all wealth, has necessarily, throughout all time, been the most coveted kind of property. It has the characteristic of immovability which no other species of property possesses, and with the guarantee of state protection for all individual rights affords its owners an element of security and permanence in their proprietary estate altogether unique. And the more modern inventions increase the productive power of L., and the further the margin of cultivation is pushed by inventiveness and enterprise beyond its old limits, the keener becomes the desire to hold it. Conversely the further back the hist. of L. is traced the less valuable will it appear to have been to those who occupied it, more especially seeing that in primeval times there was ample for all. The hist. of every civilisation is that of the subordination of crude nature to human art, and it is clear from such records as are extant (chiefly Caesar and Tacitus) of the manners of tribal organisations that these quickly learnt the value of such L. as was capable of producing natural food for their subsistence. Even with tribes whose sole occupation was the chase, we see the germ of territorial property in the defence of hard-won L. against hostile aggression by less fortunate adventurers. In the pastoral stage that germ had developed into the tenure of the vil. community, the more civilised and developed organisation of which is to be found even at the present day, especially among Slavonic and Hindu peoples. In general the common field system of cultivation obtained as the most advantageous system of husbandry, i.e. the system by which fields were divided into three narrow strips, owned in severalty but cultivated by co-operation.

In primitive societies both the arable and pasture Ls. have remained the joint property of the community, and in an ideal state when those appointed to cultivate the L. or tend the cattle had been respectively best fitted for those purposes, and willing to perform the duties for the general benefit, the need for private ownership might not have been felt. The change comes with the apportionment of the arable L. among the households comprising the vil., while the pasture, woods, and forests remain common property. The principle of joint ownership, however, survives in the system of cultivation of crops by rotation, the Ls. apportioned for culture lying fallow for a succession of years, other Ls. being assigned by the vil. rulers for cultivation. This immature system becomes definitely that of private property as soon as L. is appropriated permanently to separate families, the less fortunate or more idle 'villagers' being relegated to the waste Ls., or forced to labour for the landowners. From this appropriation springs all wealth, and the very notion of money, which in the Lat. word *pecunia* is cognate with *pecus*, cattle (see on this Sir E. Pollock and F. Maitland, *History of English Law down to the Thirteenth Century*, 1895). The general

result of this course of evolution, where the vil. community has not become a permanent institution, is the tendency everywhere for huge landed estates to become concentrated in the hands of a few powerful families, and, indeed, for most of the rest of the L. occupied by any particular nation to fall into the hands of comparatively few of the people, with the consequence that political control falls to the owners of L., and the very qualifications for office are based upon the possession of a certain amount of L. It is then that ownership or tenure of L. is regulated by legislation, and, whether we are dealing with the agrarian reforms of the Gracchi or the fiscal proposals of our own times, it is not difficult to appreciate why laws relating to L. must almost inevitably be at the same time laws that vitally affect the very polity and constitution of the state, and inevitably rouse the angriest passions. It is not, however, to be assumed that the same course of evolution is traceable in the hist. of the L. of all existing nations, though there may well be certain fundamental similarities in the earliest stages. But unquestionably feudalism lies at the root of L. tenure in most European nations, although in practically every case nothing but faint traces still remain, e.g. in Scotland, where the Scots L. law still speaks of *feu duties* being payable by a *vassal* to his *superior* or *lord*, while in England we still speak of a lord of the manor. (For the relation between the Rom. tenure of L. and continental feudalism, see under LAND LAWS.) The break-up of feudalism may be said to have begun from the time knight service became commuted for a money rent, and practically completed when terms of years or leases were granted by landowners; for these were indications of speculation in L. as a source of profit—a state of things entirely opposed to the spirit of commendation. The whole hist. of Eng. L. during the Middle Ages is that of a struggle between feudal overlords and their tenants, the former endeavouring to exact to the letter all the aids, reliefs, and other burdens imposed on the tenants by the L. laws, the latter endeavouring to evade all such quasi-public obligations and consolidate their holdings into private property in the fullest sense of that term, an endeavour which was partly accomplished by the devices of conveyancers in frustrating the common law rules as to tenure, and partly through alienations in mortmain (q.v.), and the doctrine of uses and trusts (see EQUITY). The idea that L. in England was merely held or loaned of a superior lord on certain conditions practically received its death-blow by the rule of primogeniture—at first a mere corollary of feudalism—and the judicial interpretation of words of grant (see DE DONIS). The later concession that L. might be disposed of by will completed the conception of a tenure of L. as a species of private property. As to the effect of marriage settlements, and wills customarily made in the manner of settlements, in keeping estates in the hands of wealthy families, see under LAND LAWS and ENTAIL.

In Franco there is a system of petty entails in vogue which, taken with the conformity of landowners to the spirit of the rule of succession of all the issue equally, results in the existence of a great number of private estates of no great size; whereas in England the effect of primogeniture and settlements made conformably to that doctrine is the aggregation of huge landed estates in the hands of comparatively few.

There were, especially in the late nineteenth and early in the present century, suggestions put forward with a view to remedying the real or supposed evils of private ownership of L. The propositions generally urged were: (1) To abolish entails and primogeniture which has now been achieved, and other legal difficulties in the way of sales, now much modified. The Land Transfer Act (see LAND REGISTRY) has done something to lessen expense. (2) To legalise and extend tenant-right (see under LAND LAWS). (3) To establish tribunals of arbitration to decide upon appeals as to the rent to be paid (see CROFTERS and under LAND LAWS as to tenant-right). (4) To have the state buy out the landlords and either sell again to the tenants, or itself remain the landlord. As to taxation of L. values as a step to nationalisation of L., the expenses of nationalisation, and the extent to which state ownership and control actually prevail, see under LAND LAWS. See also LAND COMMUNITIES; LAND FOR MILITARY PURPOSES; LAND LEAGUE; LANDLORD AND TENANT; LAND NATIONALISATION.

See Sir H. Maine, *Village Communities*, 1871; E. Jenks, *Modern Land Law*, 1899; Barbara Hammond, *The Village Labourer, 1760-1812*, 1911; J. S. Venn, *Foundations of Agricultural Economics*, 1923; F. Gearn, *Land Tenure and Unemployment*, 1925; Lord Ernle, *The Land and the People*, 1925, and *English Farming*, 1927; Sir W. Holdsworth, *History of English Law*, 1927; and G. C. Cheshire, *Law of Real Property* (4th ed.), 1935.

Land Army, see WOMEN'S LAND ARMY. Landau, tn. in the Rhineland, formerly of Bavaria, Germany, 17 m. S.W. of Speyer. It has ant. historical associations. Founded in the thirteenth century, it was made an imperial city and fortified. It played an important part in the Thirty Years war. Bavaria entered into possession of it in 1816 and destroyed the fortifications in 1871. It is a trading centre, has iron foundries, and manufs. machinery. Pop. 16,000.

Landaur, cantonment and sanatorium in the Dehra Dun dist. of the United Provs., India, 75 m. E. of Umballa. Altitude 7159 ft. Pop. 5000.

Land Banks are conducted for the purpose of lending money to farmers who wish either to buy land or to embark upon development of land already owned by them. In Great Britain there are no L. B. exclusive to that class of business, the farmers conducting their business through the ordinary joint-stock banks, most of which advance money on mortgage, holding the title-deeds as security, or by

local credit societies affiliated to such concerns as the Farmers' Land Purchase Company and the Lands Improvement Company. But there are agricultural banks, whether called by that name or some other name indicative of their function in six British colonies notably in Barbados (ordinances of 1907 and 1936), Cyprus (ordinances of 1890 and 1925), Kenya (ordinance of 1931), Mauritius (ordinance of 1946), Seychelles (ordinance of 1937), S. Rhodesia (ordinance of 1924), Trinidad (revised laws cap 132) and Transjordan. Germany had the *Landschaften* (credit union of Germany) and the *Raiffeisen Bank*, which controlled a great number of credit societies. L. B. operates extensively however in the U.S.A. where the Federal Land Bank is the most prominent. In 1923 gov. control was imposed over the movement and the capital was subscribed by the Treasury. Intending borrowers are required to take up 5 per cent of the loan in Federal Land Bank stock, such facilities being available only to farmers. There are too many privately owned joint stock L. B. authorised by the Federal Farm Loan Act. Borrowers from these banks are under no obligation to make a subscription and loans are made for the purpose of development including expenditure upon seeds, machinery, etc. as well as for the purchase of land.

Land Commissioners. On the passing of the Tithe Act 1836 commissioners were appointed to administer its provisions and when the Copyhold Act 1841 was passed the tithe commissioners were entrusted with the duty of administering that Act.



LAND CRAB (*GECAECINUS LATERALIS*)
FROM THE GABOON
On sixth natural size

as well. When later additional duties, relating to the enclosure of commons and land drainage devolved upon them they became styled tithe, copyhold, or enclosure commissioners according to the particular functions they happened to be exercising at the moment. On the passing of the Settled Land Act, 1882 (see under LAND LAWS), they received the name of L. C. for Landland. Finally, in 1884 the commission became merged in the Board of Agriculture.

Land-crab, popular name given to the species of Gecarcinidae, a family of

malacostracan crustaceans which only occasionally visit the sea or fresh waters. They have a square convex carapace and moderately large eyes. The species of *Uca* are found in the mangrove swamps of S. America, and those of *Gecarcinus* inhabit the forests of the W. Indies.

Land Drainage, see DRAINAGE AND DRAINAGE, LAND RECLAMATION.

Lander, Richard Lemon (1804-34) Eng. explorer b. at Fermo Cornwall. In 1825 he accompanied Hugh Clapperton on his second expedition to W. Africa and was with his leader at his death at Sokoto (1829), publishing Clapperton's journal in the same year with additions of his own as *Journal of Richard Lander from Kano to the Coast* followed by *Records of Captain Clapperton's Last Expedition to Africa* (1830). In that year L. was sent with his brother John (1807-39) by the Brit. Gov. to explore the lower course of the Niger an account of which they pub. in 1832 as *Journal of an Expedition to Explore the Niger*. During a second expedition to the Niger, in 1834 L. was killed by natives.

Landes, maritime dept. of S.W. France bounded on the W. by the bay of Biscay. It is divided into two parts by the R. Adour. The portion to the N. includes three-fifths of the dept. and is composed of tracts of heath and sand interspersed with forests of oaks and cork trees and numerous marshes which are being gradually drained into the shallow lagoons which fringe the sea coast. The S. part is hilly and covered with oak plantations and vineyards. The mining of iron ore and bituminous coal is an important industry. There are mineral springs at Dax, and rock salt is obtained there and at Tescourre. There are two arrons. Mont de Marsan (the cap.) and Dax. Ar. 3604 sq. m. Pop. 248,800.

Landeshut, Landshtut (Polish Kamienna Gora), tn. of Silesia, Poland (formerly of Germany) on the Bober at the base of the Riesenberg 30 m. S.W. of Liegnitz (Lignitz). It has manufs. of linens and cotton goods. From 1921 the Cistercian abbey of Grüssau was occupied by Benedictine monks expelled from Prague. Pop. 13,900.

Land for Military Purposes. Under various statutes the Crown has power to interfere with a landowner's rights, or acquire his land by compulsory purchase for purposes relating to military administration. There are a number of provisions to be found in the Military Forces Localisation Act, 1872; Ranges Act, 1891; Military Lands Acts, 1892, 1900 and the Military Manoeuvres Act, 1907, for the purchase of land for ranges, for volunteers military manœuvres barracks or other use for the localisation of the military forces, and generally for military purposes. Under the Defence (Barracks) Act, 1935 land may be acquired compulsorily for barracks for any of the three services. There are ancillary provisions in these Acts authorising the taking, closing, or diversion of highways, the making of by-laws relative to practice ranges and the assessment of compensation for

damage done in the course of military manoeuvres. Also the secretary of state for war has power, under the Military Tramways Act, 1887, to purchase land for military tramways (as to acquisition of land in case of invasion, see under DEFENCE ACT, 1842). The procedure for the acquisition of land and the mode of assessment and payment of compensation is for the most part to be found in the Defence Act, 1842. Generally speaking, assessment is either by jury or two justices, but in the case of land acquired under any Act which incorporates the Lands Clauses Acts (*q.v.*), the authority acquiring the land may require the assessment to be settled not by jury but by arbitration. See also under LAND LAWS as to compensation for 'injurious affection.'

Landgrave, old Ger. title of nobility. After the time of the Carolingian kings the term was used for a governor in the interior, under a duke, in contradistinction to a margrave, or keeper of the frontier. But the Ls. soon made themselves independent and all such distinction was lost. In the eleventh century the margraves of Thuringen assumed the title of L., and in the next century the Graves of Hesse obtained the title.

Land Laws. In no respect does the peculiar genius of a powerful nation manifest itself so much as in its L. L. Land in relation to the notion of proprietorship stands upon so different a footing from all other kinds of property that fundamental diversities in the L. L. of great states at different periods have almost necessarily existed. The traditional Eng. conception of a fee simple owner whose right of disposition is absolute, and whose rights of user are conditioned solely by the prohibition of injuring others in exercising them, or of an eldest son under a strict settlement whose rights are hardly inferior, would have astonished a Rom. aristocrat. Yet in the later period of the Rom. system it is possible to see in the emphyteutic (see EMPHYTEUTIC TENURE) by which the proprietor alienated all his rights, except the bare ownership, for a long term in consideration of a yearly rent (*pensis*), not only an approximation to the Eng. long leasehold, but the link between the Rom. and the feudal systems of land holding (see also Sir H. S. Maine, *Ancient Law*, Chap. VIII.), which latter lies at the root of the whole Eng. L. L. In the earliest times the arable lands of the Roms. were cultivated in common by the sev. clans, each clan distributing its produce among the sev. households belonging to it. This was a system essentially suited to an agric. community where wealth was measured not in terms of money or rent, but in cattle and the usufruct of the soil. The constitution itself was based on clanship and this communal system of husbandry, but even before the Servian constitution this system had yielded to a process of distribution of land by which estates were for the most part no larger than could be farmed by a paterfamilias aided by his sons and slaves (generally about 20 *jugera* or 12½ ac.). But side by side with these smaller farms there existed,

somewhat later in the regal period, the *latifundia*, or broad ac., of the Rom. patricians, though exactly how and when they were formed is a matter lost in obscurity. It was from the great Rom. landlords that the Rom. nobility sprang, much as the territorial aristocracy of England was evolved. At first, however, the great Rom. landlords and senators, among whom had been distributed the clan lands, were literally 'fathers from the fields' which they parcelled out among the common people as a father among his children. The fundamental distinction between the older Rom. individual ownership by a senatorial father and the landholding aristocrat of later times is that the former was sole owner, though his 'tenants on sufferance' had *de facto* rights and privileges of no mean order, while the ownership of the latter is based upon the leading characteristic of both the feudal system and the L. L. founded upon that system of double ownership. The tenant was treated as a true proprietor so long as he paid the quit-rent to the grantor of his lease, while the reversionary ownership of the grantor is kept alive by a power of re-entry on non-payment of rent. This double ownership was essential to the feudal system wherever it obtained and at all its periods of development, whether the rent or *redditus* (*reddire*, to give back) was returned in the form of money or personal services, as by knight service (see under KNIGHTHOOD), or by agric. services as in socage tenure (see also GRAND SERJEANTY and HILLOT). In England at the time of the Conqueror the feudal system of L. L. may be said to have allowed of a treble ownership; the double ownership of the superior lord and his vassal co-existing with the general overlordship of the king.

Although the later Rom. L. L. may have evolved a system in some respects not dissimilar to continental feudalism, there was in them nothing like the Eng. system of subinfeudation under the supreme ownership of the king. It is true that the practice of commendation and mutual oaths of fidelity and protection, and the obligations of military service, were features common to Eng. and Teutonic feudalism. But the conception of England as the hereditary fief of the king was quite indigenous; and the subsequent evolution of the Eng. L. L. through the principle of primogeniture into a hard and fast system of succession in a strict line of devolution, which served to keep great landed estates concentrated in the hands of a single member of a country family, was no less peculiar a feature of the Eng. feudal organisation.

The greatest interest which an Eng. subject can have in land, viz. an estate in fee simple, is theoretically short of being absolute, in that it is subject, to the shadowy ownership of the king. But such interest confers almost plenary rights on the owner. It confers free enjoyment, consistent with security to the persons and property of others, and disposition, and is characterised in all but form by all the incidents of absolute ownership. An owner in fee simple can

freely dispose of his land in his lifetime, or by his will, either for his whole interest or for any part of it, or for a term of years (see CHATTEL INTEREST; LANDLORD AND TENANT), though this right of disposal is subject to the operation of the bankruptcy laws against voluntary assignments or conveyances in fraud of creditors. His ownership in the soil extends without limit above and below (*ius est solum, ejus est usque ad cælum et ad inferos*). The right to the air above has hitherto been merely one way of expressing the owner's right to erect buildings to any height he chooses, subject, of course, to any limitation on that right which he may have imposed upon himself by covenants with grantees of adjacent land, and subject to the right to light gained by prescription by other persons; but in these days of the development of the art of flying the right may conceivably require a more liberal interpretation. The right to the actual soil in the case of a highway is subject to the public right of way (see HIGHWAYS), but it is otherwise unimpaired, though mining operations must not be carried out so as to break up the highway. The right to the minerals is subject to the Crown's right to any gold or silver mines (called 'royal mines'). The Crown is also entitled to buy copper and other ores at a valuation. The freeholder may also except out of a conveyance of his land the mines lying under it, and they will then remain his corporeal property, subject to the duty of working them in such a way as to leave sufficient support to the surface. Where copyholds (q.v.) were enfranchised (converted into freeholds), the lord of the manor or paramount freeholder continued entitled to the mineral. Copyhold tenure was, however, abolished by the Law of Property Act, 1922, by its enfranchisement on specified terms. Water is technically land covered with water (see LAND), but the owner's right to water depends on whether it is percolating, or running in a defined stream or channel; if the former he may do as he will with it, notwithstanding the detriment to others who may have relied upon it previously for water-supply, and notwithstanding that his drainage operations may cause a subsidence of neighbouring property (see DAMNUM ABSQUE INJURIA). But if the latter he has no right to exhaust the supply or pollute the stream, or divert or dam the water, unless the diversion causes no material injury to other landowners over or through whose land the stream also flows, or unless he has obtained a right to divert or pollute by prescription (uninterrupted user for forty years); and whether the water be tidal and navigable or not, every other riparian owner has an equal right to take a reasonable quantity for domestic or business purposes.

But all these incidents of absolute ownership may be limited in a number of ways by the owner himself, who besides being able to grant portions of his land to others for any estate, may grant rights of way or other easements (see also INCORPOREAL HEREDITAMENTS). Lands may also be subject to commonable rights or

profits à prendre (see COMMONS; EASEMENTS). Various rights against an owner of land may also be gained by prescription, i.e. uninterrupted user for a certain number of years. A right of way is gained in twenty years, a watercourse in forty. A right to light for any dwelling-house or other building in twenty years (subject to the right having been enjoyed by some consent or agreement expressly given in writing). Where the owner of a house and adjoining vacant land sells his house, a right to light over the land arises by implication, but if he sells the land such easement arises only where he expressly reserves the right to light over the land sold.

In regard to the right of an owner to carve out of his own estate or interest lesser estates, it is to be observed that there exists in our L. L. a fundamental rule against what are called perpetuities. An owner may grant by deed or will a number of life estates to existing persons and thereafter interests in 'remainder' and 'reversion'; the whole forming, as it has been aptly said, a series of estates projected on the plane of time; but in so doing he must take care that no interest given to some unborn person is so remote that it cannot arise within the compass of existing lives plus twenty-one years, with an added nine months for the period of gestation. This rule against perpetuities which was early designated in the interests of the free circulation of land, is capable of less scientific expression by saying that an estate granted (see GRANT) to an unborn person for life cannot be followed by any estate to any child of such unborn person. But this rule is subject to a practical limitation imposed by the conveyancing device of the strict settlement, by which the substance if not the shadow of perpetual estates is preserved. Briefly a strict settlement is, or was, a mode of keeping landed estates in the hands of a family by creating life estates in existing or living persons, followed by estates tail in remainder given to unborn persons in a regular order of succession, together with clauses for pin money, jointure (q.v.), and portions (see also HORRORUM) for younger sons. (Since the Law of Property Act, 1925, no new entail can be created.) See further under SETTLEMENTS; PERPETUITIES; LIMITATION.

The rights of a lessee are determined by the conditions of his lease, and need not be further discussed here, except to notice that where there are no restrictions by the lessor, the lessee's right to use the land is as unfettered as that of a freeholder.

Enough has been said above to show how valuable the legally safeguarded rights of a landowner are, and it is not surprising that economists and publicists have at various times endeavoured to prove that private property in land is naturally inequitable. In England a movement was set afoot by Lloyd George to tax land values. A tentative step in this direction was taken in his budget of 1909, which not only provided for an original valuation of every acre of land in the kingdom, with a differentiation between site and 'total' value, but

imposed some four new land taxes (since repealed) directly aimed at the land monopoly in the interests of the developer of land (see LAND TAXES). Some have gone so far as to assert that land is so different from all other kinds of property that it not only can but ought to be the exclusive source of taxation. This 'single tax' movement originated in the teaching of Henry George (see his *Our Land and Land Policy, National and State*, 1871, and *Progress and Poverty*, 1880), and, broadly speaking, it may be said that George's idea was that land should be progressively taxed up to its full capital value, until ultimately property in land values was taxed out of existence, and land thereby became wholly state-owned.

This article is not concerned with the reasons for and against the 'single tax' movement, the principles of taxation of land values in general, or land nationalisation, except in so far as they have found expression in L. L. The undeveloped land duty was designed to force all land into its best use, and thereby to free land on the margin of cultivation; the increment value duty recognised what may be called the social aspect of private property, by forcing the owner to give to the State a proportion of the gain that accrued to him by reason rather of the collective action of the community than by his own exertions; and these are some of the essential principles of the 'single tax' movement. Again the germ of nationalisation is clearly recognisable in the creation of small holdings and allotments, and indeed in the very principle of the compulsory purchase of land for any public purpose. That principle would in all probability have been carried very much further, at all events in the direction of purchase for small holdings, tu.-planning schemes, housing schemes, and other public purposes, were it not for the heavy payments by way of compensation.

Under the Lands Clauses Acts (q.v.) compensation has to be paid not only to owners of land purchased compulsorily, but also to owners whose land is 'injuriously affected' by the scheme or purpose for which land has been purchased. But the decided cases establish that compensation for 'injuriously affected' is payable only when the injury is actually due to the execution of the works contemplated by the scheme; is actionable but for the statute or private act authorising such works to be executed; and constitutes an infringement of a right incident to land, i.e. a mere personal injury though connected with the enjoyment of particular land (e.g. a contract to erect a building on land is not ground for compensation). Again 'special adaptability' is an element to be taken into consideration in assessing compensation, e.g. where land is compulsorily taken for the purpose of making a reservoir, the fact that the land has peculiar natural advantages for supplying a dist. or area, apart from any value created or enhanced by the scheme or act for appropriating the water to a particular local authority, may be taken into account in awarding compensation. But, on the

other hand, persons whose property has obviously been increased in market value by a particular tn. or other public or quasi-public improvement are required to pay a special charge, called 'betterment charge', assessed in such improved value. Betterment charges are analogous to increment value in principle, but whereas the latter indicates an accretion of value due to some origin which cannot be traced, or to a cause not specially connected with the owner, such as the general progress in wealth of the community, the former implies that an accretion of value has accrued from some specific cause, e.g. a laying out or widening of streets in the vicinity. A local authority may under the Housing Acts recover part of the increase in value due to the making of a tu.-planning scheme from the owner whose land has been so enhanced in value. (See HOUSING.) This principle has been carried further by the legislation on tn. and country planning introduced by the Labour Gov. in 1917. The Town and Country Planning Act is a comprehensive code for the use of land and regulates the compensation of owners for loss of development value or for compulsory acquisition. It provides that compensation may be paid for loss of 'development value' and that a levy should be made on improved site values due to development. See further under TOWN AND COUNTRY PLANNING and the references in that article to the report of the Uthwatt Committee.

The mode of disposing or conveying land is more fully discussed under CONVEYANCE, CONVEYANCING, but on this part of L. L. it is to be observed that there is a very general tendency to simplify the archaic form of conveyancing as far as possible by the system of registration of title (as distinct from that of deeds), a system which obtains in the co. of London, Germany, Austria, Hungary, Australasia, Switzerland, and Canada (see REGISTRATION OF TITLE). Land is necessarily not a subject-matter capable of such simplified modes of disposition as other property, and to obtain a good title it is necessary to employ a solicitor to trace back for a certain number of years the hist. of the land that is being negotiated for. This hist., or 'abstract of title,' is sometimes of great length, and not seldom contains some hiatus in the chain of devolution which may not inconceivably vitiate the purchaser's title. But if once a system is adopted of requiring the compulsory registration of every transfer of land, the hist. of any parcel of land or hereditament will become notorious and the title immeasurably simplified.

See T. Mommsen, *History of Rome*, 1853-56; J. Muirhead, *History of Roman Law*, 1886; Sir F. Pollock and F. Maitland, *History of English Law*, 1898; Hood and Challis, *Conveyancing, Settled Land, and Trustee Acts*, 1909; J. Williams, *Real Property*, 1926; Sir H. Maine, *Ancient Law* (new ed.), 1930; and see also the article on 'Tenant-Right' in Wood-Kentou's *Encyclopedia of English Laws*.

Land League, The, formed by Michael Davitt and other Irish politicians in 1879 as an organisation for promoting reforms of land tenure in Ireland. The agitation of its members resulted in Irish tenants forming a kind of trade union, by the rules of which they were bound to refuse dealings with any tenant who had taken land from which its former occupier had been evicted. One of the first victims was Capt. Boycott, whose name has ever since been a synonym in the Eng. language for shunning a person. According to modern historians of Irish affairs, the L. L. did its utmost to warn the peasantry against deeds of actual violence, but the gov., full believing that its members had encouraged and incited tenants to commit outrages, instituted a prosecution against Parnell, Biggar, Sexton, Dillon, and the entire executive body of the L. L. The prosecution produced no result, for, as Justin McCarthy (*History of Our Own Times*, 1892-97, 1905) points out, the Crown could never have found a jury in Leinster, Munster, or Connaught to convict Parnell of sedition, unless it had "packed" the jury. The L. L. was a great factor in the hist. of agrarian reform in Ireland, and one of the first legislative fruits resulting from it was the concessions in Gladstone's Land Bill, 1881, though Parnell himself did not deem it polite to accept the Bill in the name of his revolutionary followers as anything more than a small instalment of their just demands. The L. L. through Parnell then advised Irish tenants generally to abstain from litigation against landlords until certain test cases had been decided. The result was that the gov. interpreted Parnell's advice as an attempt to thwart its legislation, and promptly imprisoned him under the Coercion Act. Later, when other prominent members of the L. L. were imprisoned, the league was dissolved.

Landlord and Tenant. Technically an owner in fee simple (see **ESTATE**; **INHERITANCE**; **INHERITANCEMENTS**) who leases his land to another for 999 years at a nominal rent stands to that other in the relation of L. and T. In this article the relationship L. and T. will be restricted to its popular connotation of a grant so limited in duration, and so burdened with reciprocal obligations or covenants (*q.v.*) for rent, repairs, and the like, that the grantor or landlord retains an appreciable or substantial interest in the land leased. Any landowner may grant a lease to another for a term not exceeding in duration the interest or estate he himself holds in the land; but a tenant-for-life under the Settled Land Acts can, under certain conditions, grant building leases for 99 years, mining leases for 60 years, and occupation leases for 21 years, and such leases will stand good even though they may endure beyond the life of the lessor, for they are made for the benefit of the inheritance rather than that of the tenant-for-life, and the latter will have to set aside a certain portion of the rents from mining leases and fines reserved on those and building leases as capital moneys. Under the Settled Land Act, 1925, leases of settled land may be made and leases accepted by

the tenant-for-life or by trustees of the settlement. With certain exceptions any one may become a tenant; but an infant (see **INFANCY**) may, on coming of age, repudiate within a reasonable time leases taken by him while under age.

Tenancies are either for a fixed term of years, commonly called a leasehold (see **LEASEHOLD**), from year to year (yearly tenancy), or for a shorter term than a year, including the tenancy of a lodger. No precise or technical form of words is required to constitute a leasehold, but it is unwise, especially from the tenant's point of view, not to be guided by precedent, for omissions almost inevitably throw further burdens upon him and not on the landlord. A lease for a term not exceeding three years, taking effect in possession at the best rent which can be reasonably obtained without taking a fine, may be by parol or in writing under hand only; but leases without a saving clause for the doctrine of part performance (see **FRATERNITY**, **STATUTE OF**) must be under seal by deed, and also leases for a term over three years. Agreements for a lease are not enforceable by action unless evidenced by a memorandum in writing (Law of Property Act, 1925), though this does not apply in certain cases of leases by persons under disability; but if the tenant enters into possession it takes effect as a tenancy at the will of the landlord, and if he pays rent it becomes a yearly tenancy. If in writing, though not under seal (*i.e.* not a deed), the tenant can get the agreement to grant a lease enforced by a court of equity (*q.v.*) The advantage of a deed is that it gives the *legal estate*, and where two innocent persons are defrauded by a landlord purporting to grant the same land to two persons at once, he who has the legal estate prevails. If both have deeds, the first in date prevails; otherwise a deed is now of no great importance. As to building leases granted in consideration of a ground rent, see **under** **GROUNDS** **RENT**. By the Law of Property Act, 1922, perpetually renewable leases are convertible into terms for 2000 years; and by the Act of 1925 leases for lives are converted into leases for ninety years determinable by notice on the ceasing of the life. Leases are generally prepared by the landlord's solicitor, who submits a draft lease to the tenant's solicitor for approval or amendment. The lease is then engrossed (formally written out) in duplicate, the counterpart being retained by the landlord and the lease delivered to the tenant. The latter, if he does not employ a solicitor, should see that the engrossed lease contains all the amendments or alterations agreed upon. The tenant pays the expenses of the landlord's solicitor according to a fixed scale (see **FEES**). Leases usually contain covenants (*q.v.*) by the tenant to pay rent, rates, and taxes (except landlord's property tax); to keep the premises in tenable repair, and at the end of the term to deliver up the premises in good repair; to insure the premises against fire; to permit the landlord on giving notice to enter and view the state of repair; and not to assign or underlet

without the landlord's consent; and a covenant by the landlord that the tenant shall have quiet possession. Under the Landlord and Tenant Act, 1927, a landlord may not unreasonably withhold consent to assignment; and the Law of Property Act, 1925, provides against the exactation of a fine for the landlord's consent save where the lease expressly provides for such payment. In any event, a reasonable sum for legal or incidental expenses must be paid by the tenant. An agreement to assign must be in writing. In the absence of express agreement the tenant and not the landlord is bound to do repairs. Most leases also contain a proviso for re-entry by the landlord on the tenant failing to perform his covenants; but this is not to be interpreted literally, as the landlord must first give the tenant notice of the breaches (*q.v.*) complained of, and reasonable time to remedy them, and then, if the tenant continues to make default, take proceedings in ejectment (*q.v.*). As regards 'decorative repairs,' when a landlord seeks to forfeit a lease on the ground of the tenant's failure to execute such repairs, the court may in certain cases give relief to the tenant; but no relief will be granted when the covenant to put in repair has never been performed nor when the tenant has covenanted to yield up the premises in a specified condition, nor again when sanitary considerations enter into the case (Law of Property Act, 1925). The Leasehold Property (Repairs) Act, 1938, restricts the enforcement by lessors of repairing covenants in long leases of small houses. The Act applies to houses of a rateable value of £100 or less, with five or more years unexpired, and is invoked where the lessor serves a notice under the Law of Property Act, 1925. The lessor can defeat the restriction by proving that the breach of the repairing covenant substantially diminishes the value of his reversion or on various other grounds specified in the Act, as that he cannot otherwise give effect to some enactment or by-law providing for the safety or sanitary condition of the house. Forfeiture for a breach of conditions other than by non-payment of rent is regulated by the Act of 1925. With certain exceptions, the landlord may give the tenant notice of the breach and demand compensation, calling upon the tenant to remedy a remediable breach; but a tenant who has tried to comply with the notice may get relief in the courts.

It is to be observed that in practice the above covenants are often varied by agreement, and of course it is to each party's interest to throw as many of the burdens as possible on the shoulders of the other. The prin. bone of contention is the repairing covenant; and in this connection it should be noted that a covenant to yield up in a good state of repair does not mean that the tenant is under an obligation to renovate the premises, for the nature and age of the premises and the class of neighbourhood will be taken into account by a court of law in deciding what repairs the tenant was bound to execute. If the premises are burnt down,

the tenant will still be liable to pay rent in the absence of express stipulation in the lease to the contrary; and if he is under a repairing covenant, he will also have to pay so much of the expenses of repair as are not covered by insurance moneys. (*See also under War Damage Act, 1939.*)

A yearly tenancy is one which is expressed to be from year to year, or in respect to which the tenant pays a yearly rent. A clear six months' notice is necessary to determine a yearly tenancy. A tenancy for one year certain, and thereafter from year to year, is not a yearly tenancy, but operates as a tenancy for two years at least, and the earliest moment at which it can be determined is at the end of two years by notice given at the end of the first year. Quarterly, monthly, and weekly tenancies may be determined by a clear quarter's, month's, or week's notice respectively. The liability for repairs in the case of a yearly tenancy is usually a matter of express agreement, in the absence of which neither landlord nor tenant is liable, though the tenant must make good actual damage caused by him.

Lodgers have the same rights, and are under the same liabilities as other tenants, except that in the absence of contract the estab. custom of the locality determines what notice to quit must be given. Generally speaking, if the hiring is from year to year, six months' notice must be given, if quarterly a quarter's notice, and so on; and a lodger who quits without giving notice is liable for six months', a quarter's, or a week's rent according to his contract.

Tenancies at will (apart from the case of verbal contracts, noticed above) arise where a tenant is let into possession of land on the terms that he is either bound to quit at the will of the landlord, or entitled to go at his own will. At law the payment and acceptance of rent will convert such precarious tenancy into a yearly tenancy. Tenancies at will do not often occur in practice, any more than tenancies by *sufferance*, *i.e.* where the tenant holds over after expiry of his lease. Most lawyers regard the tenancy by sufferance as a legal fiction to explain feudal archaisms, and in practice it may be safely assumed that the law will construe a tenancy of holding over to be continued on the same terms as the expired tenancy, or else as a yearly tenancy, subject, of course, to there being clear evidence of a merely contumacious holding over against the will or knowledge of the landlord, in which case the tenant will be liable for double rent where he has himself determined the tenancy by notice; and for double the ann. value if the landlord gave the notice. Except in the case of furnished houses and dwellings under the Housing of the Working Classes Acts, there is no implied warranty on the part of the landlord that the premises are fit for occupation. Under the Housing Act, 1925, the landlord covenants that the premises are and shall throughout the term remain in a state fit for human occupation and he may not contract out of this obligation (*see also under Housing*),

and it is to be noted that a person who knowingly lets for hire premises in which any person has been suffering from any infectious disorder without having duly disinfected the premises and articles contained therein to the satisfaction of a medical practitioner, is liable to a penalty not exceeding £20, or to one month's imprisonment.

The right of distraining for rent upon goods situate on the premises is subject to a great number of limitations. As a rule distress is levied through a certificated bailiff armed with a written warrant. (For a list of things not liable to be distrained upon and the law of distress generally, see DISTRESS.) The law of L. and T. remains unaffected in principle by the Rent and Mortgage Interest (Restriction) Acts, but is considerably affected in practice.

Rent Restriction Acts.—The house shortage, resulting from the cessation of building in the First World War, led to the passing of a number of Acts which have given to tenants of property of a certain value security of possession, subject to payment of rent. The prin. Act, Increase of Rent and Mortgage Interest (Restriction) Act, 1920, gave this protection to tenants both of business premises and of dwelling houses; but only residential premises let unfurnished and parts of houses so let as separate dwelling houses are now protected. Formerly the landlord who wished to resume possession for his own personal use could do so on finding the tenant alternative accommodation, but this provision was repealed. If the tenant sublets part of the premises the sublet part will not remain protected. Protection is conditional on a number of events, most of which are within the tenant's control; and the landlord, in proceedings for eviction, must satisfy the court that it is reasonable in all the circumstances to make an order. The rent of protected tenancies may be raised on various grounds, especially in respect of repairs effected by the landlord. Provision for "decontrol" or removal of protection is made both by the prin. Act and by the Rent Restriction Act of 1923. Substantial reconstruction of premises in actual and lawful possession by the landlord puts an end to the status of protection. The Act of 1927 contains special provisions, to come into force when control ceases, designed to prevent wholesale evictions. Subject to a month's notice by the landlord, the Rent Restriction Acts ceased to apply, as from Michaelmas 1933, to houses where both ann. rent and rateable value exceed certain amounts; below which amounts houses could still become decontrolled under the Act of 1923 when the landlord came into possession, provided they were not below certain still lower limits in rent and rateable value. The Act of 1933 expired in 1938, the new Act of that year extending decontrol still further, but maintaining control in respect of houses of a rateable value in 1931 of over £20 and not more than £35 in the Metropolitan Police area or over £13 and not more than £20 elsewhere. Under this

Act some 400,000 to 500,000 houses were entitled to become decontrolled. (See further RENT RESTRICTION ACTS.) But when the Second World War broke out in 1939 an Act of that year was passed to continue the prin. Acts until six months after the emergency period (as declared by Order in Council). This resumption of the Act means, therefore, that the restrictions apply to dwelling houses of which the rateable value does not (a) in the Metropolitan Police dist., or in the city of London exceed £100; (b) in Scotland, £90; (c) elsewhere, £75. It may here be mentioned that under the Furnished Houses (Rent Control) Act, 1946, provision is made for the appointment of rent tribunals by the Ministry of Health, to whom may be referred for decision questions of the appropriate rent of houses or parts of houses let at a rent which includes payment for the use of furniture or for services.

The Landlord and Tenant (Rent Control) Act, 1949.—This act provides in certain cases for the determination by the tribunal of standard rents for the purposes of the Rent and Mortgage Interest Restriction Acts, 1920-39. It also restricts the requiring of premiums in connection with tenancies; makes further provision for the purposes of the above mentioned Acts where the tenant shares part of his accommodation with his landlord or other person or sublets part of his dwelling-house furnished. It also amends the Rent of Furnished Houses (Control) (Scotland) Act, 1943, and the Furnished Houses (Rent Control) Act, 1946, as respects security of tenure and the requiring of premiums and as respects the district for which tribunals are constituted.

Compensation for Improvements.—The Landlord and Tenant Act, 1927, gives to tenants of business premises compensation for such improvements as enhance the value of the property; but the landlord has a right to object to the improvement before it is actually effected. The principle is the same as that embodied in the Agricultural Holdings Acts, but the recognised improvements are defined in the later Acts and some of them may support a claim for compensation even though the landlord has no use of them. Goodwill, due to the tenant's efforts, gives him a right to compensation in all lease cases and sometimes to a new lease; but the claim may be resisted on various grounds, such as the personal character of the tenant or the use to which the landlord intends to put the property. The tribunal for these claims is the co. court, the dispute being referred to a referee for report.

Agricultural Tenancies.—Agric. tenancies or holdings stand on a somewhat special footing. In the absence of agreement to the contrary a tenancy from year to year can only be determined by a year's notice expiring with the year of the tenancy. The Agricultural Holdings Act, 1908, gives the tenant a right to compensation from the landlord at the expiry of the lease, for certain improvements made by the tenant, the compensation payable being

based on the market value of the improvements to an incoming tenant, less a sum representing any benefit extended by the landlord to the tenant in consideration of improvements. In the event of dispute as to the amount of compensation, the matter must be settled by arbitration. As to the tenant's right to remove agric. fixtures and the law of fixtures,

compliance is impracticable, or only practicable at an unreasonable cost. Further, a tenant under a lease may serve a notice on the landlord, stating that war damage has been done so that the landlord may make it good. War damage occurring to 'settled land,' or land held on trust for sale, may be defrayed out of capital moneys. In certain cases the tenant may

	Term not exceeding 35 Years or Indefinite, no Consideration other than the Rent	Term not exceeding 35 Years or Indefinite; Consideration payable in addition to Rent	Term exceeding 35 Years but not exceeding 100 Years	Term exceeding 100 Years
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Not exceeding £25 per annum; for every £5 or fraction of £5	0 1 0	0 2 0	0 12 0	1 4 0
Exceeding £25 but not exceeding £100 per annum; for every £25 and fraction of £25	0 0	0 10 0	0 0	6 0 0
Exceeding £100 for every £50 and fraction of £50	1 0 0	1 0 0	0 0 0	12 0 0

generally, see **FIXTURES**. The old statutory law of agric. fixtures, contained in the Landlord and Tenant Act, 1851, is extended by the Allotments and Small Holdings Act, 1922, and the Agricultural Holdings Act, 1923, so as to give the tenant the right to remove certain fixtures before the term expires. In the case of agric. holdings (and market gardens) the tenant must give one month's notice and the landlord may purchase the fixtures at a reasonable price. Renewable fixtures are excepted from those improvements which ground a claim for compensation under the Landlord and Tenant Act, 1927. Under the Agricultural Holdings Act, 1923, a landlord may give the tenant notice to quit part of the holding, in which event an apportionment of the rent is to be made. A comprehensive Agriculture Bill, which was introduced by the Labour Gov. in 1946, makes substantial amendments to the Agricultural Holdings Act, 1923, particularly in the provisions relating to security of tenure for the tenant farmer. The Bill provides for the setting up on a permanent basis of co. agric. committees appointed by the Ministry of Agriculture, but including a number of members drawn from panels nominated by the farmers, agric. workers, and landowners. Independent agric. land tribunals are also to be set up to hear appeals on the more important issues arising under the Bill, for instance, dispossession of owners and farmers and the operation of notices to quit.

War Damage Act.—The Landlord and Tenant (War Damage) Act, 1939, modifies the rights and liabilities of landlords, tenants, and other persons interested in property in case of war damage. It gives relief from the obligation to repair where

elect to disclaim his lease where the land in question is unfit by reason of war damage. Within a week of serving the notice of disclaimer the tenant must also serve notices on his assignees (if any), mortgagees, or lessees holding under him or make good any damage suffered by these persons by reason of his omission. The co. court has power to modify the operation of a notice of disclaimer on terms specified in the Act. Alternatively the tenant may serve on the landlord a notice of retention, stating that he elects to retain the lease on the terms specified in the Act. Contracting out of the provisions of the Act is prohibited.

Courts (Emergency Powers) Act, 1939.

Under this Act a landlord must obtain the leave of the court before he may proceed to execution or enforce any judgment or order for the recovery of possession of land in default of payment of rent.

Stamp Duty.—The stamp duty on a lease or tack (*q.v.*): (1) For any definite term not exceeding a year: of any dwelling-house or part of a dwelling-house at a rent not exceeding the rate of £40 per annum is 2d. (2) For any definite term less than a year: (a) of any furnished dwelling-house or apartments where the rent for such term exceeds £25, is 10s.; (b) of any lands, tenements, or heritable subjects otherwise than as above, the same duty as a lease for a year at the rent reserved for the definite term. (3) For any other definite term or for any indefinite term: of any lands, etc.: Where the consideration (*q.v.*), or any part of the consideration moving either to the lessor, or to any other person, consists of any money, stock or security: in respect of such consideration the same duty as a conveyance on a sale for the same consideration (Revenue Act,

1911, s. 15); where the consideration or any part of the consideration is any rent: in respect of such consideration, if the rent, whether reserved as a yearly rent or otherwise, is at the rates in the table set out opposite, the duties are as there set forth. (1) Of any other kind whatsoever, 40s. (Note: Where the agreement for lease is fully stamped *ad valorem*, the lease itself requires 6d. only, but the denoting stamp is necessary.) (5) Building lease: *ad valorem* on the rent.

To come under the provisions of the Stamp Act, 1891, and of the Finance Act, 1921, the document must operate as a lease or a tenancy agreement.

See also under HOUSING.

See T. J. Soplian, *Landlord and Tenant Act*, 1927, 1928; J. M. Wolstenholme, *Law of Landlord and Tenant* (3rd ed. by G. Turner), 1937; W. Woodfall, *Law of Landlord and Tenant* (24th ed. by L. A. Blundell), 1939; H. A. Hill, *Complete Law of Landlord and Tenant* (ed. by W. J. Williams and M. M. Wells), 1916; E. Fox, *General Law of Landlord and Tenant* (7th ed. by A. H. Forbes), 1947.

Landnáma-Bók, or the Book of Settlements, written by Alf F. Ǫhl (1067-1118), who is truly called the tatar of Icelandic saga. It is the earliest historical record of Iceland, and is written in the Norse tongue. The first part tells of the discovery of the Is., and the other four parts are detailed and faithful accounts of the settlers in its four quarters, with mention of their dwellings, palaces, temples, and descendants.

Land, Nationalisation of, term used to denote the abolition of all private ownership in land and the vesting of all landed property in the State. Socialists argue that the N. of L. or state ownership of land has a different complexion from state ownership of movables or 'created commodities,' it being assumed that land is the ultimate source of supply of man's entire material needs, and that therefore a land monopolist is a potential danger to the community, because he can, by exploiting his ownership for purposes other than agric. or industrial, deprive his fellow man of the necessities of life. The assumption that no man has the moral right to private ownership of nature's resources is the chief inspiration of those who advocate state ownership. Most arguments for the N. of L. spring from the theories of J. S. Mill, Henry George, and Herbert Spencer, and proposals for nationalisation (as contradistinguished from complete Socialism) have attracted only small attention outside the U.S.A. and Great Britain, or, in other words, have acquired favour only in those conditions where certain land values, owing to the rapid economic progress of the past century, have risen phenomenally, while yet remaining in the hands of relatively few owners. This condition has therefore favoured arguments founded on Mill's proposals for the taxation of unearned increment, but going further, in that Mill did not advocate more than the nationalisation of a proportion of the increment. In Russia, where all land was

confiscated under the regime of the U.S.S.R., small holdings are let out to peasant agric. workers on conditions that tend to assimilate the tenant to a landowner. Notwithstanding the Utopian appearance of such schemes, the Central Committee of the Communist party of the Council of People's Commissars had to take action in 1930 to 'protect the common lands of the collective farms from misappropriation' by individuals who unlawfully exceeded the limits allowed for the personal use of their households. It may be noted that farms in the U.S.S.R. are mainly of two kinds, the *Kholhoz* (collective farm), owned and managed by the peasants collectively and run by a committee, and the *Soykhoz* (usually larger than the average *Kholhoz*), owned by the State and directed by a manager appointed from above. Each collective farm household has for its personal use a plot of land up to a full hectare.

'Land of Enchantment,' see NEW MEXICO.

'Land of Steady Habits,' see CONNECTICUT.

Landon, Letitia Elizabeth, afterwards Mrs. Maclean (1802-38), Eng. writer, began to publish verses when she was in her eighteenth year, under her initials 'L. E. L.', and in 1821 brought out *The Fate of Adelaide*, and between this date and 1829 issued other vols. of poetry. Her first novel, *Romance and Reality*, appeared in 1831, and was followed three years later by *Francesca Carrara. Traits and Trials of Early Life* (1836) is said to be autobiographical. In fiction her best work was *Ethel Churchill* (1837), which was reviewed by Thackeray (*Fraser*, Jan. 1838). See life by L. Blanchard, 1841.

Londor, Walter Savage (1775-1861), Eng. author, was educated at Rugby and Trinity College, Oxford. He declined to be called to the Bar, and preferred to live on a small allowance from his father. He stayed for three years in the country, and in 1798 pub. his first poem, *Cebir*, which, though highly praised by the few, including Southey, Shelley, and Coleridge, did not attract the many. He spent a wandering life for many years, staying at Bath and other Somersetshire towns, and visited Paris in 1802. On the death of his father in 1805, he came into a handsome competence, and three years later went to Spain and served as a volunteer against the Fr. In 1811 he pub. his second book, *Count Julian*, a tragedy, which met with the same fate as its predecessor. He now bought the estate of Manthony Abbey, married, and settled down as a country gentleman, but in 1814 he went abroad, where he resided until 1835. In 1824 he issued two vols. of *Imaginary Conversations*, and three more in 1828-29. This was his chief work, and in the 'conversations' a great profusion of noble and gracious forms, of widen times and of a later day, pass sweetly or sadly before us. If the characters have little individuality, many of the dialogues show L.'s unfeeling instinct for the heroic or tender; yet beneath every mask—Cicero, Diogenes, Lucian—the great solemn, flexible, and

harmonious voice of 'that deep-mouthed Boeotian Savage Landor' is plainly heard. From 1835 until 1858 he lived at Bath, and then went abroad, where he *d.* six years later. He was hopelessly irascible, but he contrived, by some happy chance, to remain on good terms with Dr. Parr, and, later, with Browning. His poems are little read, but his prose has survived. He cared nothing for popularity or popular feeling, and was always convinced that his great merits as a writer would be recognised, as indeed they have been, by posterity. In his prose L. certainly found



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the manner most suited to his thoughts—in itself a rare achievement. The commentary on Trotter's *Life of Fox*, for example, is written in the same language as that used by him in later life. It is a prose style 'at once condensed and lucid, weighty without emphasis, and stately without effort or inflation' (Colvin). Where he falls in prose it is not in style but in temper and in discretion, by harping too much on one point without at the same time revealing any critical power, though criticism was essentially a part of his *métier*. In style, however, as distinct from treatment, he was a prose master, and his individual stamp is at once easily recognisable in any detached passages. With his verse the case is different. He never attained that mastery over verse which would have made it the fitting medium of his thought and fancy. Indeed he was himself sensible of this deficiency, and never spoke of his verse so confidently as he did of his prose, of which, in fact, he was not a little vain-glorious; for he ranked himself as the best of contemporary prose writers. But if he mistrusted his hand in verse, it is admitted that he is above the second rank of poets; and there is no Eng. poet capable

of the perfection and force he shows in his shorter poems, and, since Milton, only Keats has written blank verse of so majestic and harmonious a tone. In this respect his *Gebir* (1798) is to be ranked with Keats's *Hyperion*, while his *Count Julian* is wellnigh unrivalled in its own vein. In the same style as *Gebir* is *From the Phorceans*, but far behind it, showing indeed that his two best known pieces were solitary efforts; for the *Phorceans* is involved in style and narrative, is generally obscure and often unnatural. Another poem in the epic style, *Chrysaor*, is distinctly more successful; and perhaps the value to L. of these attempts at epic style is that he thereby found that his real powers as a poet lay rather in the short poem—much the more appropriate instrument for the expression of his turbulent and rugged thoughts. He wrote a large number of brief poems and some of the best known of these have one source in common, his love for Ianthe, the most enduring feeling of his life. L. wrote a lot of Lat. verse, especially epigrams, in the style of Martial and Catullus. His *Hellenics*—a group of narrative poems—in treatment sometimes recall the work of Ovid, but are more direct. Other works were *Pericles and Aspasia* (1836); *Pentameron* (1837); and *Poemula et Inscriptiones* (1847). For selections from his works, see C. G. Gump (ed.), *Poems, Dialogues, in Verse and Epigrams*, 1872, and the Golden Treasury Series, ed. by S. Colvin, 1882; Havelock Ellis (ed.), *Imaginary Conversations and Poems*, 1933; F. A. Cavenagh and A. C. Ward (eds.), *Imaginary Conversations*, 1934. See also R. Bulwer-Lytton, *Reminiscences of Walter Savage Landor*, 1883; A. H. Mason, *Walter Savage Landor, poète lyrique*, 1921; G. J. Becker, *Landor's Political Purpose*, 1938; and lives by J. Forster, 1869; S. Colvin, 1881; H. C. Minchin, 1934; and M. Elwin, 1942.

Landrail, see CORNCHAKE.

Landrécies, tn. in the dept. of Nord, France, which has been the scene of many battles. It was in L. during the First World War that Brit. Guards first met the Gers., when, on Aug. 25, 1914, they repulsed a night attack in the streets. Brit. force captured L. on Nov. 4, 1918. Pop. 3700.

Land Reclamation. The hist. of L. R. goes back to the anc. Egyptians, who are believed to have drained the Nile valley. The Romans had extensive drainage systems, from which some countries still benefit. In more recent years Holland is the outstanding example of a country's enterprise in L. R. In 1853 the Lake of Haarlem was drained, and in 1931 an ambitious scheme was launched for the reclamation of the Zuider Zee by means of dykes. Under this scheme large portions of the Zuider Zee were reclaimed before the Second World War, it being the intention eventually to reclaim the whole of it for agric. purposes. In April 1915 the Gers. flooded the land behind the Grebbe in the hope of holding out behind the water barriers, but after an allied warning to their commander (Gen.

Blaskowitz) that the opening of the dykes would constitute an indelible blot on his military honour while in no way impeding the coming collapse of Germany, there was no further flooding. In 1919 Marshall aid was granted to the Dutch to pay for projects begun in 1948. These projects included the reclamation of no less than 120,000 ac. of farmland in the Zuider Zee to be added to the area of the Netherlands, and the redistribution of farmland on Walcheren. The Allies had flooded Walcheren at the end of the war because it was a strategic point held by the Gers. Its flooded fields were drained by 1919 and were once more in production. The fen lands in the E. of England are another example of L. R. by drainage. It has taken 200 years to reclaim this dist., consisting of 2000 sq. m. or more of marshland, from salt and sea water. Other countries in which vast areas of land have been reclaimed by drainage are Italy and America. In 1925 502,453 hectares of land in Italy were estimated to require urgent drainage, and more than 300,000 hectares of this land were reclaimed by 1931 and the rest not long afterwards. In 1920 53,000,000 ac. of farmland were reclaimed to be provided with a drainage system, but a large extent of land still requires drainage. Land is also made more fertile by irrigation, and desert land has thus been reclaimed for agric. purposes. The irrigation method of L. R. is as time-honoured as that of drainage. Thus, in the U.S.A. the Bureau of Reclamation serves 4,000,000 ac. of lands in the arid and semi-arid regions which were once desert. Since 1902 the bureau has constructed nearly 190 dams, five of which are the largest concrete structures in the world: Grand Coulee, Washington; Boulder, Arizona-Nevada; Shasta, California; Friant, California; and Marshall-Ford, Texas. In the U.S.A. in 1914 the power output from over thirty plants located on reclamation projects approximated 14½ billion kilowatt hrs. of energy or half as much again as in 1943. The war industries in the S.W. Pacific were dependent for 50 per cent of their power on the Boulder Dam (q.v.), Parker Dam, and other installations. At the beginning of 1945 the bureau had in operation, under construction or authorised, some seventy-eight irrigation and multiple-purpose projects. (See IRRIGATION.) Another form of L. R. is in the reclaiming of out-over forestlands. Such land may be sown with grass and used for pasture, or the stumps of trees may be removed by blasting or firing, and the ground so reclaimed used for agriculture. See also COAST PROTECTION.

Land Registry. This official registry was estab. by an Act of 1862 as the outcome of the recommendation of a royal commission. The purpose of the Act was to simplify and cheapen transactions in land by setting up a state register of landowners, who voluntarily submitted the titles to their land for examination and approval by the registrar on behalf of the State. The L. R. was re-formed by the Land Transport Act, 1875, which, while

effecting changes in the system, continued its voluntary basis. The Land Transfer Act, 1897, however, introduced the principle of compulsory registration, and by four orders in council made under that Act between 1898 and 1902 the system was made compulsory on sale of land in the administrative co. of London. By another order in 1925 registration was made compulsory on sale in Eastbourne; in Hastings (1928); in the administrative co. of Middlesex (1936); and in Croydon (1938). The Land Registration Act, 1925 consolidated the previous Acts, and made such changes in the system as experience had shown to be necessary. The gist of the system is that the machinery for the purchase and sale of land is assimilated to the sale of stocks and shares. Absolute titles granted by the L. R. are guaranteed by the State. Simple forms, analogous to those used on transfers of stocks or shares, are provided. The cost of buying, selling, or mortgaging registered land is much less than the cost in the case of unregistered land. It is open to a co. council or co. bor. council to apply to the Privy Council for an order making registration of title compulsory in its area. The L. R. is administered under the lord chancellor by the chief land registrar, who also controls the Land Charges Dept. under the Land Charges Act, 1925, and the Agricultural Credits Act, 1928.

Landsberg: 1. Tn. in Bavaria, Germany, on the Lech, 22 m. S. of Augsburg, making agric. implements and machinery. Pop. (1939) 8000. 2. Tn. in Brandenburg, Germany, on the Warthe, 40 m. N.E. of Frankfurt-on-the-Oder. Its manufactures include furniture, bricks, and machinery, and it also has foundries and breweries. Pop. (1939) 35,000. It was the scene of heavy fighting during the Russian advance on Berlin in 1945.

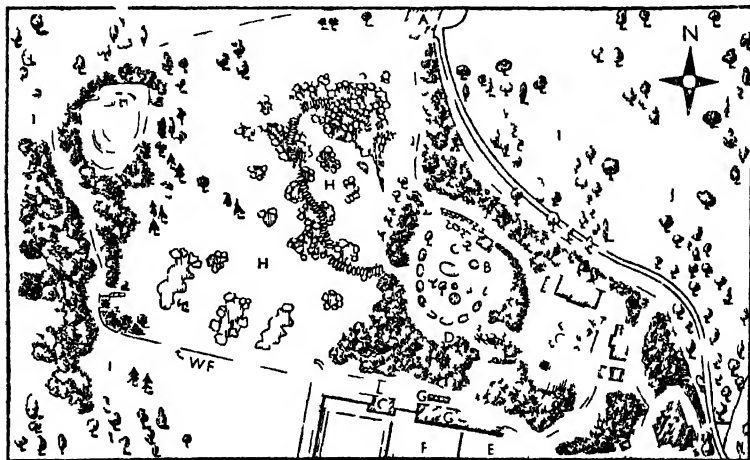
Landscape (O.E. *landscap*, *landscipe*; Dutch *landschap*), term in art applied to a picture representing a view of a country as seen by the artist. Among the most famous of L. painters are Hobbema and Ruysdael of the Dutch school, Claude, Corot, Cézanne, and Rousseau of the Fr. school, and the Eng. artists Constable, Turner, Richard Wilson, Bonington, and Gainsborough. The Eng. L. style, which Wilson was the first to bring to perfection, gradually displaced the classical L. and, among other artists, was adopted by the water-colour school, from Paul Sandby to Cotman. The Wil-on natural L., as developed by Constable and Turner, grew into Fr. Impressionism and in that form was returned to this country notably in the work of Sisley. See also WILSON, RICHARD.

Landscape Gardening is gardening on a large scale, its aim being to produce a beautiful effect by means of the right juxtaposition and combination of open space, trees, water, and buildings. Such gardening was practised in early times by the Assyrians, Jews, and anc. Gks., but little authentic information is available with regard to the style of their gardens. It is possible that they paid greater attention to architecture, to the external

appearance and internal comfort of a house than they did to the artistic arrangement of an estate. The Romans of the Augustan period and later built their luxurious villas amid a garden of shady trees with cool porticoes, fountains, and marble terraces. They probably introduced the art of L. G. into Great Britain. The ruins of a Roman villa were discovered over a century ago on the Blenheim estates, and it is conjectured that it was the central feature of Henry I's magnificent park at Woodstock. The ruins of

Hortus Britannicus 1832, *Self instruction for Young Gardeners and Foresters*, 1841, and *Encyclopedia of Cottage, Farm, and Villa Architecture and Furniture*, 1846, H. Repton *On Landscape Gardening* 1840, J. R. Elliott and H. F. Milner *Landscape Gardening* 1890, T. H. Wharson *The Art of Garden Making* 1912, 1926, and R. Sudell *Landscaping Gardening* 1935.

Lands Clauses Acts comprise a series of Acts. The Lands Clauses Consolidation Acts 1845 and 1869, the Lands Clauses



LANDSCAPE GARDINING RIDDLIF, IFFSHURST, ABOUT 1850

The gardens made by Mr Wells in the early nineteenth century. From London's *The Villa Gardener*.

A the house, B the English garden and summer house in an allanquay, C the Dutch garden with rustic oranges, D the dairy and billiard room, E a garden with rock work, F the experimental garden, G the kitchen garden, H the conservatory, stores and outhouses, I the rock work garden, J the wood with exotic trees, K the pasture lawn with ancient trees, W the water.

the fifteenth century cultivated the art of L. G. Marble which needs the back ground of an It sky to set off its beauty was used to great effect in terraces, fountains, and steps. The gardens of Fontainebleau, set out by Francis I in direct imitation of those he had seen in Italy, were subsequently altered by Henry IV and Napoleon. Dutch gardening is characterized by its prim neatness, its smooth carefully kept lawns, and trim hedges, and bushes cut into fantastic shapes designed to represent animals. In Great Britain the gardens of Hampton Court and St James's were made by William III in emulation of the beautiful gardens of Versailles. Of modern Eng landscape gardeners the greatest have been Win Kent (1684-1748), who planned Richmond Park, and Lancelot Brown (1715-1783), commonly known as 'Capability Brown,' who remodelled Blenheim. See also GARDEN ART. See J. C. Loudon (q.v.),

Consolidation Amendment Act 1860, the Lands Clauses (Improvement) Act 1894, Lands Clauses (Fixation of Costs) Act 1895, the Acquisition of Land (Compulsory Purchase) Act 1911, and the Acquisition of Land (Authorisation Procedure) Act, 1946, the object of which is to provide legislative clauses for incorporation in special or private Acts of Parliament authorising land to be acquired either by agreement or compulsorily for the purpose of railways, harbours, waterworks, gasworks, cemeteries, electric lighting, markets and fairs, tramways, canals, housing schemes, small holdings, or any other public undertaking, whether national, local or municipal or for commercial purposes of public utility. In the case of compulsory acquisition by the promoters of the undertaking, the Acts provide for compensation to be paid to the owners, the amount of which is generally settled by arbitration. The only persons entitled to take lands under

the Acts are the 'promoters of the undertaking,' i.e. the persons or corporations authorised so to do by the general or special Act (i.e. a private Act for a commercial undertaking) incorporating by reference the Lands Clauses Acts. In the case of a special Act no lands or easements (q.v.) can be taken by the promoters unless actually required for the undertaking, and lands taken must be delineated on the plans deposited with the Board of Trade, the Ministry of Health, or the Private Bill Office of Parliament, according to the standing orders. But in the case of public Acts it is not necessary to deposit plans, and, generally speaking, the powers given by such Acts are more literally construed than those given by special Acts. Lands required for extraordinary purposes incidental to those of the undertaking may be acquired by private treaty. Under the Act of 1845 the promoters may be required to take the whole of a building if they propose to take any part of it; but, if not, the compensation will include payment for 'injurious affection' (as to which see under LAND LAWS). The days of extensive railway construction have passed, but wide statutory powers exist authorising gov. depts. and public and local authorities to acquire land compulsorily for public purposes. The Act of 1845 applies to all such cases in so far as there are no special provisions in the Acts which authorise the public and local authorities to purchase such land compulsorily, and another Act is now particularly applicable to cases where gov. depts. or local public authorities possess those powers. This is the Acquisition of Land (Compulsory Purchase) Act, 1919. The provisions of this Act apply to the determination of the amount of rent or compensation payable in respect of land authorised to be hired compulsorily under the Small Holdings and Allotments Act, 1908, or any Act amending that Act. But the Act of 1919 does not apply to the determination of a dispute as to the amount of compensation payable on the withdrawal of a notice to treat under the Act of 1908 (Small Holdings and Allotments Act, 1908). The official arbitrator, by virtue of the Acquisition of Land Act, 1919, has very wide powers in the cases submitted to him, and the provisions of the Small Holdings and Allotments Act, 1908, show that his powers extend to arbitrations held in matters arising out of that Act and the prin. Small Holdings Act of 1908.

The Restriction of Ribbon Development Act, 1935, empowers the highway authority to acquire land within 220 yds. from the middle of any particular road, where purchase is necessary for constructing or improving the road or preventing the erection of buildings detrimental to the view from the road. The appropriate provisions of the Lands Clauses Act and Acquisition of Land (Assessment of Compensation) Act, 1919, are modified as to the manner of compensation by the arbitrator. The Air Navigation Act, 1936, empowers local authorities to acquire land

compulsorily for the purpose of constructing aerodromes, and under the Air-raid Precautions Act, 1937, compulsory powers are given to co. or co. bor. councils for A.R.P. purposes, but both these Acts provide that compulsory purchase orders must be confirmed by the secretary of state. As to the many purposes in relation to public health for which a local authority can purchase land compulsorily by means of a provisional order made by the minister of health and confirmed by Parliament, consult the Public Health Act, 1936 (consolidating and amending previous Acts). See Reports of the Defence of the Realm Losses Royal Commission, 1916-20; R. A. Gordon, *Compulsory Acquisition of Land* (2nd ed.), 1936, and *Encyclopedia of Planning Law and Computation*, 1949; and C. A.ripps, *Law of Compensation for Land acquired under Compulsory Powers* (9th ed.), 1948 (in preparation).

Landseer, Sir Edwin Henry (1802-73), Eng. animal painter, was already sketching cows and horses from life at the age of six, and eight years afterwards became an exhibitor. He passed through the academy schools, took lessons from Haydon, became an associate of the Royal Academy at the earliest age possible (twenty-four), was an A.R.A. in 1826, and in 1830 was elected a full member. His early work, as, for example, 'Dogs of St. Gothard discovering a Traveller in the snow' (1820), and the diverting 'Cat's Paw' (1821), is informed with a spirit of masculine animalism, and excels in high finish and most accurate modelling. The pictures of his maturity are tinged with sentiment, which sometimes sinks to sentimentality, and the dogs delineated are rather those whose spirits have been tamed by civilised domesticity than brutes of primal instincts. He developed, moreover, an amazing facility; the much-admired 'Cavalier's Pets' (1845) was begun and finished in two days. In 'High Life' and 'Low Life' (1829) and the splendid 'Drover's Departure' (1835) L. carefully interweaves a human with the animal interest, whilst 'Jack in Office' (1833) and 'Dignity and Impudence' (1839) afford delightful illustration of his humorous vein. 'The Monarch of the Glen' (1851) nobly evinces his sense of the dramatic, and 'The Old Shepherd's Chief Mourner' (1837) is a masterpiece of pathos. It is said that L. was a neurotic and that in 1840 he had a severe breakdown, from which he seemed to make a complete recovery; but twenty years later his mind again became seriously disordered and there were seasons when his depression was so extreme that he became the victim of hallucinations and delusions that bordered on actual dementia. It may be mentioned that in 1856 he refused the position of president of the Royal Academy. He was buried with considerable ceremony at St. Paul's Cathedral and a special L. sermon was preached the day after his funeral.

L. emerges out of almost any drawing test as a good artist. But handling of paint is his really strong point, and in fact his colour has a much underestimated

vitality and charm. His chief defect as a painter lies in his inadequate grasp of large-scale structure, and usually his landscape background has an unsatisfactory wooliness of form. But landscape was only an accident of his work, which was mainly concerned with dogs and stags, and here sometimes he distorts the forms of his animals for sentimental, non-aesthetic reasons and as if to give expression, not to the animal's emotions, but to his own or his public's favourite emotions. Yet for most of his life L. was the most popular animal painter in Europe. His reputation was to some extent helped by his coming from a family of engravers who could popularise his work, and partly by his great vogue with the queen and Prince Albert, some think, however, that the real reason for his fame was that his trick of reducing human situations and human emotions to animal proportions was congenial to a polite society which was beginning to avoid the promiscuous display of these emotions itself. It would seem, however, that there is no reason to inquire so subtly into what after all must be evident—the excellence of his forms apart altogether from the occasionally mawkish sentimentalism, and also the universal fondness for dogs, and for stags as monarchs of the glen. See lives by F. G. Stephens, 1880, and J. A. Manson, 1902. See also *Landseer and Animal Painting in England*, 1891.

Land's End, promontory of S.W. Cornwall, England, which forms the most westerly point of the country. It is 9 m. S.W. of Penzance. The End is a turf slope ending in a granite cliff about 60 ft. high. A natural tunnel pierces the headland, and there are interesting caves which can be visited at low tide. Dangerous rocks lie off the point; the Longships lighthouse (erected 1793) is situated about a mile out.

Landshut: 1. Tn. on the Isar, Upper Bavaria, Germany, 38 m. N.E. of Munich. It contains many beautiful churches, the castle of Trusnitz (thirteenth century), and a monastery, formerly the seat of a univ. and later the gov. offices. Here the Austrians defeated the Bavarians and were defeated by Napoleon in 1809. The chief manufs. include machinery, rope, tobacco, chemicals, safes, and beer. Pop. 30,800. 2. In Silesia, Poland; see *LANDESHUT*.

Landskrona, seaport on the E. side of the Sound, in the prov. of Malmöhus, 15 m. N.E. of Copenhagen, in Sweden. It has an excellent harbour and is engaged in sugar-refining, tanning, and other industries. It has large dockyards and an important bacon-exporting industry. It also makes tobacco and iron-castings. Many battles took place in its neighbourhood during the sixteenth and seventeenth centuries, and in 1687 it was the scene of a great naval victory of the Swedes over the Danes. Formerly it was called Landor and was strongly fortified. Its old castle has been transformed into an arsenal and prison. Pop. 21,500.

Landslips, falls of rock and large portions of land, which, for various reasons,

have been detached from their original position or broken away from a cliff. One of the natural causes in producing L. is water, consequently they are frequent on the coast, where the continuous wash of the waves gradually undermines the rocks or soil and makes deep cracks in the base of the cliffs. The cliffs of the S. of England, consisting of chalk and greensand on a bed of lassic clay, are particularly liable to L., which are continually altering the outline of the coast. These are partly due to the rainfall, which saturates the clay until the superincumbent mass lurches forward, and forms an under-cliff. L. are not uncommon in mountainous dists., where overhanging rocks that for centuries have withstood the elements suddenly become displaced by a heavy rainfall or by the melting of the snows.

Landsteiner, Karl (1868–1943), Amer. pathologist, b. in Vienna, where he studied at the univ. He worked as a pathologist in Vienna (1900–19) and at The Hague before going in 1922 to the U.S.A., where his early work on serology and immunology came to its fruition at the Rockefeller Institute. His work on human blood groups was the foundation of the great progress made in more recent years in blood transfusion. His classification of blood groups made it possible to determine accurately whose blood could be safely given to any particular sufferer. His discoveries in this field were the outcome of thirty years' research, while he also made important contributions to treatment of infantile paralysis. His Nobel prize (1930) was only the most famous of the many honours conferred on him by scientific foundations in Europe and America, including the Paul Ehrlich medal of the Ger. Academy of Natural Science; he was elected a foreign member of the Royal Society in 1911.

Land Taxes. 'Land tax' under an Act of 1798 is payable upon all freehold and leasehold property, in respect of which such tax has not been redeemed. This tax is assessed upon the ann. value of freeholds and leaseholds in every par.; each par. is liable to pay a fixed proportion of the tax, which is raised by an equal pound rate which must not exceed 1s. nor be below 1d. in the £. A landowner whose ann. income does not exceed £150 is exempt from payment, and a remittance of one-half of the tax is allowed where his income does not exceed £400. Prior to the Finance Act, 1938, relief had to be claimed before actual payment of the tax, but now refund of tax is made even though the amount has been collected. Lands or tenements, the yearly value of which is below 20s., are not liable to assessment. The tax may be redeemed as to any lands or houses by payment to the inland revenue commissioners of a capital sum equal to thirty times the tax charged upon such lands or houses, and such sum may be paid either in one sum or by four equal ann. instalments of not less than £5 each or by ann. instalments of not less than £60 over a period over four but not exceeding sixteen years, with interest at

3 per cent on the balance after payment of each instalment.

Under the Finance Act, 1910, there were four new duties: (1) Increment Value Duty. (2) Reversion Duty. (3) Undeveloped Land Duty. (4) Mineral Rights Duty. These taxes, however, were repealed by the Finance Act, 1920, owing to the unsatisfactory results and assessment difficulties, and the duties which had been collected were returned. L. T. on undeveloped land were under consideration by the Labour Gov. of 1929-1931 shortly before that gov. went out of office. The implementing Bill, however, threatened, apart from the nation's ever-increasing financial responsibilities, to imperil the Labour party's tenure of office and its attempted passage was, moreover, beset with amendments from the Liberal party, without whose support it was doomed.

In Australia in 1910 the Commonwealth levied a tax of 1d. to 6d. in the £, in addition to the L. T. levied by the separate states. In an attempt to break up large estates to the advantage of smaller settlers. In Germany in 1911 an imperial general tax was levied on increased value of land upon the occasion of its sale, while the states were given optional powers to impose their own L. T.

There are no L. T. as such in America, duties on land and real estate being included in the General Property Tax. Most of the revenue of the cos. comes from this source.

The net receipts from land tax, land values, and duties in the United Kingdom from 1924 to 1910 average £1,000,000. The most recent revenue returns are: 1938-39, £1,550,000; 1939-40, £1,300,000.

Land Tenure, see LAND; LAND LAWS; LANDLORD AND TENANT.

Land Tenure, Primitive or Colonial. The forms of L. T. in backward cos. are closely related to social institutions, and the study, by the tutelary power, of the various forms which exist or have existed and their effects is important if the development of primitive or backward indigenous peoples is to be guided along the right lines. The primitive system under which no claim to particular pieces of land is made, every man cultivating the soil or pasturing cattle where he chooses, though not infringing the equal rights of other members of the same community, may be designated 'communal tenure' (V. Liversage). To-day this tenure is found for the most part among pastoral or hunting communities and in regions where the supply of land is plentiful. Thus in Brit. Guiana the aboriginal tribes moved about the country as their fancy dictated, 'squattling' where their inclination took them and moving again in the same way (Thurnwald), and this un-economic practice of 'shifting cultivation' was followed by the manumitted slaves of Jamaica (Anthony Trollope). The communal element operated only within the particular tribal group and was accompanied by the delimitation of 'spheres of influence' based on original hunting or grazing rights, rights which eventually

developed into tribal tenure. Thus all the clans of the Kikuyu Prov. (Kenya) trace their land claims principally to an original exercise of hunting rights. Tribal tenure shows a remarkable resemblance everywhere in its basic principles. The relative importance of the different elements may vary in different groups—the influence of magic and ancestor worship, the degree of patriarchal or feudal control, etc.; but everywhere, whether among the Nilotes in E. Africa, the Bantu in E. Africa, or the Negritoes and mixed races in the Pacific Is., the broad principles are similar (Liversage).

An important element in tribal tenure is the right of usufruct accorded to the person who actually undertakes development. The recognition of this right is almost universal in primitive systems. Thus in the N. Provs. of Nigeria the general principle governing the tenure of native lands is that title to land is based on a communal usufructuary right, and whatever radical right the chief may have in legal theory it does not amount in practice to anything more than an administrative control over vacant lands in the interests of the whole community. The chief is bound to assign land, when available, without rental charge, to any one who requires it (C. K. Meek). It may be mentioned that in some areas in N. Nigeria occupation conferred more than a mere usufructuary right and this conception would seem to have received some sanction from Muslim law.

It must not be supposed that undeveloped land has no claimants. Such land is used for grazing livestock, or as a source of fuel and building materials and also as a reserve for potential needs; and all these claims may be exercised by tribes or clans, being in effect common rights, or by family groups, though seldom by individuals. There has always been controversy over the question as to whether the tenure in a particular tribe is individual or not. On this it may be said that in most cases under tribal custom (prior to modification by foreign conceptions) the rights of an individual cultivator, even though he might regard himself as the owner of the land, were immeasurably less than those of a full owner in the modern sense. Under ant. native custom land was never saleable, nor could it be disposed of by will. A transaction in land could take place only by a tribal act, involving full and public discussion with the family or tribal elders and even communion with spirits. Even among the Kikuyu, where there was never tribal tenure nor any law which gave any particular chief or group of chiefs any power over land other than the land of their own family groups, the power to decide land disputes was vested in the councils of elders, who conducted all land transactions. Kikuyu tenure presents some differences from other forms of tribal tenure. The Kikuyu unit is the *githaka* which represents a land claim staked out by an original founder, modified by subsequent div. among his descendants, a custom which results in too great

fragmentation (see on this the Morris Carter Report or Kenya Land Commission Report, (Ind. 4556). In Kikuyu ter. a man can acquire cultivation rights as a *mukoi* (tenant at will); no true rent is paid, but the rightful ownership is admitted by handing over a contribution of first fruits or a portion of beer from each brew (Liversage).

There is no clear dividing line between tribal and feudal tenure; in most of the former seignior is a characteristic feature; the chief or headman allots land for cultivation and settles disputes or, alternatively, these functions are exercised by an elder or council of elders. The distinction between feudal and tribal systems is mainly in the extent to which a political system is imposed upon ancient tribal practices, particularly in relation to military requirements, and systems in some respects similar to the 'manorial system' of N. Europe existed also in Africa, e.g. in Buganda prior to the establishment of the Brit. protectorate and in Basutoland. See W. H. R. Rivers, *The History of Melanesian Society*, 1914; H. M. Leake, *Land Tenure and Agricultural Production in the Tropics*, 1927; B. Malinowski, *Coral Gardens and their Magic* (agric. methods and rites in the Trobriand Is.), 1935; R. Birket, *We, the Tikopia*, 1936; R. Thurnwald, *Black and White in E. Africa*, 1936; Lord Hailey, *An African Survey*, 1938; M. M. Green, *Land Tenure in an Ibo Village*, 1941; F. M. Keesing, *The South Seas in the Modern World*, 1942; I. Schapera, *Land Tenure in Bechuanaland Protectorate*, 1943; C. K. Meek, *Land Law and Custom in the Colonies*, 1946; and V. Liversage, *Land Tenure in the Colonies*, 1948.

Land Titles, see CONVEYANCING; REGISTRATION OF TITLE.

Land Transfer Acts, see CONVEYANCING; REGISTRATION OF TITLE.

Lane, Edward William (1801-76). Eng. Arabic scholar, began life as an engraver, but finding this profession too much for his health went abroad to Egypt (1825-1828). On this occasion he explored the Nile, making many sketches. During his second visit (1833-35) he made Cairo his centre. Later (1842-49) he spent seven years in Egypt and conducted himself in every way like a true oriental. Most of his time was spent in laborious research, of which the chief fruit was his monumental Arabic lexicon (1863-74), which was unfinished when he d. It is based on the careful compilation of Sheikh Murtada, who lived in the preceding century. Other of L.'s works are *Modern Egyptians* (1836) and a trans. of *Arabian Nights* (1838-40).

Lane, Sir Hugh Percy (1875-1916), Irish art connoisseur and collector; b. at Ballybrack, co. Cork, son of Rev. James Wm. L., rector. Entering Colnaghi's, Pall Mall, in 1893, he set up for himself at 2 Pall Mall Place, in 1898, and made a fortune. In 1903 he exhibited pictures in Dublin, and bought most of them as nucleus of a gallery. Failing an arrangement for a Dublin gallery, he deposited the pictures in the National Gallery, London, where they still remain. Knighted

in 1909, in that year he advised Johannesburg Corporation on the formation of their gallery, and collected for Cape Town gallery. Director, Irish National Gallery, 1914. Returning from America in the *Lusitania*, he was drowned in the torpedoing of that ship.

Lane-Poole, Stanley (1854-1931), Brit. historian and archaeologist, b. in London. He was educated privately and at Corpus Christi College, Oxford. As a member of the coin dept. of the Brit. Museum he went on gov. archaeological missions to Egypt in 1883 and to Russia in 1886. From 1895 to 1897 he undertook research work for the Egyptian Gov. at Cairo. From 1898 to 1904 he was prof. of Arabic at Trinity College, Dublin, and from 1901 to 1902 was also examiner in Arabic for the univ. of Wales and secretary to the council of the Royal Irish Academy. His works include biographies of Stratford de Redcliffe (1888) and Saladin (1898), and works on Egyptian life (1883) and Sarcenet art (1886).

Lanercost, par. of N.E. Cumberland, England. Traces of the Rom. wall are to be found. L. Priory, founded in 1169 by Robert de Vallibus, governor of Carlisle, now forms part of the church of St. Mary Magdalene. The *Chronicle of Lanercost*, 1201-1346, an important historical authority, was composed at Carlisle. Pop. about 1000.

Lanirano (c. 1007-89), archbishop of Canterbury, b. at Pavia, where he was educated for the legal profession. In 1039 he founded a school at Avranches, but three years later entered the Benedictine monastery at Bec and was chosen prior in 1046. He defended the doctrine of transubstantiation in the controversy raised by Berengarius, afterwards publishing his theories in a tract *De corpore et sanguine Domini* (1079). William of Normandy appointed him prior of an abbey at Caen (1062), and after the Conquest created him primate of England (1070). One of L.'s achievements was to arouse an enthusiasm for learning, and he had a worthy successor in Anselm. Working closely with William, L. ensured that the Church in England should support the Conqueror; foreign ecclesiastics were introduced, and an extensive programme of reform was undertaken against laxity and indisciplin. L.'s works were pub. by d'Archery in 1648, and there is a later ed. by J. A. Giles (1844). See lives by A. Charma, 1849; J. Crozals, 1877; and A. J. Macdonald, 1926. See also J. P. Migne, in *Patrologia Latina*, vol. cl., 1851.

Lanfrey, Pierre (1828-77), Fr. historian, was expelled from the Collège de Chambéry because he attacked the Jesuits, his schoolmasters. He later studied law at Grenoble and Turin. His *L'Eglise et les philosophes au XVIIIe siècle* (1855) and his *Essai sur la révolution française* (1857) at once gave him a position among contemporary men of letters. But his *magnum opus* was his *Histoire de Napoléon Ier* (1867-75).

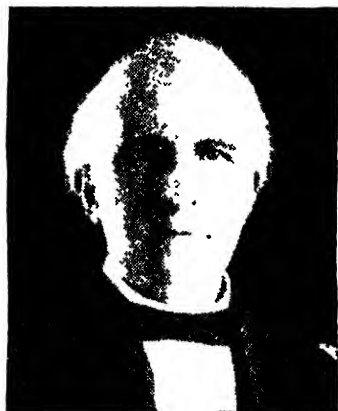
Lang, Andrew (1844-1912), Scottish man of letters, b. at Selkirk in Scotland and educated at the Edinburgh Academy,

St. Andrews Univ., and Balliol College, Oxford. He took a first class in the final classical schools (1888), and was elected a fellow of Merton College. He then entered on a literary career, and soon estab. a reputation of being one of the most versatile of modern journalists. His earliest pub. was a vol. of dainty and graceful verse, *The Ballads and Lyrics of Old France* (1872), which were followed by *Ballads in Blue China* (1880); *Helen of Troy* (1882); *Ballads and Verses Vain* (1884); *Rhymes à la Mode* (1884); *Grass of Parnassus* (1888); and *New Collected Rhymes* (1905). His delightful selections of fairy-tales began in 1889 with the pub. of the *Blue Fairy Tale Book*, followed by others, all tastefully bound and illustrated, and written with classic simplicity, down to the *Olive Fairy Book* (1907). In the realm of folklore L. produced sound scholarly work in his *Custom and Myth* (1884); *Myth, Literature, and Religion* (2 vols.) (1887); and contributed to the study of primitive religion and anthropology in *The Making of Religion* (1898); *Magic and Religion* (1901); *Social Origins* (1903); and *The Secret of the Totem* (1905).

As an historian L. was keenly interested in mysteries, to the unravelment of which he brought great ingenuity as well as a scholarly accuracy in detail. He brought fresh light to bear upon Mary of Scotland in *The Mystery of Mary Stuart* (1901) and *Portraits and Jewels of Mary Stuart* (1906). Mention may also be made of his *History of Scotland from the Roman Occupation*, in 4 vols. (1900-7). He also contributed to the controversy on the 'Man in the Iron Mask' (q.v.) in his *The Valer's Tragedy* (1903). Interested himself on behalf of the Young Pretender in *Pickle the Spy* (1897), *The Companions of Pickle* (1898), and *Prince Charles Edward* (1900). L. was also a classical scholar of high standing, which is testified in his *Homeric studies*, *Homor and the Epic* (1893) and *Homor and his Age* (1906), in his trans. of *Theocritus*, *Bion*, and *Mochus* (1880), *The Homeric Hymns* (1899), and, in collaboration with S. H. Butcher, of the *Odyssey* (1879), with E. Myers and Walter Leaf, of the *Iliad* (1883). In 1888 he was elected the first Gifford lecturer of the Univ. of St. Andrews. He ed. the Eng. Worthless Series, the works of Scott, Burns, and Dickens, and the *Life and Letters* of J. G. Lockhart and Sir Stafford Northcote. He was at one time literary editor of *Longman's Magazine*, and up to the time of his death contributed to the *Morning Post* and various other papers. His other writings, of a miscellaneous character, each in its particular way of real merit, are too numerous to mention. See G. Saintsbury, *Andrew Lang*, 1923, and *Andrew Lang in the 'Seventies—and After*, 1929; M. Beerbohm, *Life and Letters of Andrew Lang*, 1929; R. S. Rait, *Andrew Lang as Historian*, 1930; A. B. Webster, *Andrew Lang's Poetry*, 1937; and R. L. Green, *Andrew Lang, a Critical Biography*, 1946.

Lang, Cosmo Gordon (1864-1945), Eng. archbishop, son of Very Rev. John Marshall J., D.D., principal of Aberdeen

Univ. and some time moderator of the Church of Scotland; b. at Fyvie, Aberdeenshire. Educated at Glasgow Univ. and Balliol College, Oxford, he became a law student of the Inner Temple; but, undertaking social work in the E. End, he became increasingly aware of a vocation for the Church and on the eve of his call to the Bar he withdrew his name. He entered Cuddesdon Theological College and was ordained priest in 1891. He was curate at Leeds from 1891 till 1893, when he returned to Oxford, and was successively



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COSMO GORDON LANG

fellow and dean of Magdalen and vicar of St. Mary's. He then exchanged the academic atmosphere so congenial to him for parochial activity as vicar of Portsea, where he laboured till 1901, when he was appointed bishop of Stepney and canon of St. Paul's. He was now recognised as one of the great preachers of the day, happy in the possession of a voice of singular purity of tone and of a diction plain but dignified. His experiences as the coadjutor of the bishop of London in Stepney were to stand him in good stead when, at the age of forty-four, he was translated to the archiepiscopal see of York where he succeeded Dr. MacLagan. From 1908, when he was installed at York, the story of his activities is the story of the Church of England. Despite the pressure of diocesan responsibilities, his work was at the heart of every movement in the Church. As vice-president of the Church Assembly he showed a balance of mind which proved of immense value in what had become the legislative body of the Church. Not a little of the enrichment of the liturgical portion of the revised Book of Common Prayer, its adaptation to modern usage and thought, and its preservation of the Catholic interpretation of the Church's standards, was attributable to his moderating influence. His sympathies

were with the High Anglican section, but he held that a national Church must be wide enough to embrace all varieties of thought, consistent with the belief in the essential dogmas of the Apostles' Creed. Only twice previously, in nearly two centuries, had a primate been translated from York to Canterbury: but when in 1928 Dr. Randall Davidson resigned, L. became his successor. Difficult situations arose both in Church and in national affairs, occasions when he had to exercise his full archiepiscopal authority. The illness and death of King George V. brought him much before the public with his impressive broadcasts during that period of national anxiety. The abdication of King Edward VIII. made the position of the head of the Church one of extreme difficulty. Resentment at his attitude was shown in many quarters, but, with the passage of time, public opinion showed clearly that in the judgment of the majority L. had taken the right course in his support of the standards of the Church and in his interpretation of his function as head there. In politics other than eccles., L. was deeply interested, and he served on the joint committee on Indian reforms which sat for eighteen months, besides working strenuously to promote closer relationships between the Eng. and Presbyterian Churches. An outstanding incident of his career when archbishop of York was a visit he paid to the U.S.A. early in 1918 to emphasise the spiritual issues of the First World War, a tour which was admitted to have been an immense success. He was an ardent supporter of the alternative prayer book, which was ultimately rejected by Parliament in 1928, but his speeches on its behalf in the Church Assembly and in the House of Lords were less persuasive than those of Archbishop Davidson, being rather the speeches of a skilful advocate. His hold, however, on the Church Assembly was remarkable on highly controversial questions, his incisiveness and devastating criticism always winning the day and provoking the defeated minority to complain that the archbishop ought not to double the roles of Speaker and Prime Minister. In 1912, feeling that great tasks of reconstruction in Church and State must follow the second World War, when the Lambeth Conference would meet, and that such work needed a younger man, he decided to resign. His resignation took effect on March 31, 1912, and he was created Baron L. of Lambeth. His publs. include *The Miracles of Jesus as Marks of the Way of Life* (1900); *The Parables of Jesus* (1906); and *The Opportunity of the Church of England* (1906).

Langdale Pikes, two hills at the head of Great L. in Westmorland, England, known as Pike o' Stickle and Hailson Stickle, the former 3320 ft., high and the latter 2400 ft.

Langdon, John (1741-1819), Amer. merchant and politician, b. at Portsmouth, New Hampshire. After leading a seafaring life he became a merchant, and took part in the first overt acts against the Brit. Crown committed in his native

colony. He became a member of the Continental Congress, and in 1776 was made an agent of prize money for New Hampshire, and also naval agent for the Continental Congress, securing the building of some of the ships used by the famous John Paul Jones. He served for a time in the War of Independence, took part in the Constitutional convention, was in Congress for sev. terms, and then U.S. Senator from New Hampshire, being at one time president *pro tem.* of that body. In the latter part of his life he served as governor of his state.

Lange, Christian Louis (1869-1938), Norwegian pacifist and historian. Taught hist. at the Nobel Institutes, Oslo, from 1890 to 1909. Secretary of the Nobel Commission of the Storting from 1900 to 1909, and also a member of the Nobel prize committee. In 1907 he was Norwegian delegate to the International Peace Conference at the Hague, Secretary-general of the International Parl. Union from 1900 to 1933. From 1917 to 1930 he was European correspondent for the Carnegie peace movement. He represented Norway at the League of Nations from 1920. Awarded the Nobel peace prize in 1921. Author of works on international relations: *The European Civil War* (1915); *History of Internationalism* (1919); *International Politics* (1921), and *Imperialism and Peace* (1938).

Langeland, or Long Island, Dan Is. in the Great Belt between Fünen and Langeland, has an area of 106 sq. m. It is cultivated, and exports corn, flax, and timber, dairy produce, and fish. Rudkjøbing on the W. coast is the chief tn. Pop. about 21,000.

Langenbielau (Polish *Bielszawa*), tn. in Poland, consists of five contiguous vils., 3 m. S.W. of Reichenbach (Dzierżonów). There are limestone quarries and textiles are produced. Pop. 19,100.

Langendreer, com. in the prov. of Westphalia, Germany, 7 m. S.W. of Dortmund. Pop. 30,000.

Langensalza, tn. in Ger. Saxony, is 13 m. N.W. of Gotha. Textiles, machinery, bricks, tobacco, tin, and leather are produced. In the neighbourhood are sulphur springs. The Prussians defeated the Habsburgians here (1866) in the Austro-Prussian war. Pop. 12,700.

Langenthal, com. in the canton, and 24 m. N.E. of Berne, Switzerland; is a health resort, with mineral springs. Pop. 7900.

Langerfeld, tn. in Westphalia, Germany, is 24 m. E. of Barmen. Pop. 12,000.

Langevin, Paul (1872-1946), Fr. physicist, b. in Paris. Joining the Curies (q.v.) in research work, he was made assistant prof. in the Collège de France in 1902, and appointed to the chair of general and experimental physics in 1909. In 1925 he became director of the school of physics and chem., succeeding Curie. He discovered the secondary rays of X-rays and introduced Einstein's (q.v.) theory of relativity in France, also doing research into supersonic waves and applying the results to the detection of submarines. Later he became scientific adviser to the Fr. atomic energy commission.

Langham, Simon de (c. 1310-76), archbishop of Canterbury, *b.* in Rutlandshire. He became prior and abbot of Westminster in 1349, and carried out important works in the abbey, including the completion of the cloisters. In 1360 he was appointed treasurer of England, in 1362 elected bishop of Ely, and in 1363 became chancellor. In 1366 he was chosen archbishop of Canterbury, and during his primacy is said to have removed John Wyclif from the headship of Canterbury Hall. In 1368 he was made cardinal, leaving England in 1369 for Avignon, where he *d.* His tomb is the oldest in Westminster Abbey.

Langholm, mrkt. tn. on the R. Esk, Dumfriesshire, 22 m. N. of Carlisle. L. Lodge, close by, is the seat of the duke of Buccleuch. It has famous sheep fairs, tanneries, and a distillery. It is noted for its tweed. Pop. 2500.

Langhorne, John (1735-79), Eng. poet and divine; *b.* at Kirkby Stephen, Westmorland. He was educated at Appleby and Cambridge, and after filling several curacies became rector of Blagdon, Somersetshire, in 1766. He wrote for the *Monthly Review*, and pub. sev. vols. of popular poetry including *Annals* and *Virtue*. His most important work is the trans. of Plutarch's *Lives*, written in conjunction with his brother.

Langkat, port on the N.E. coast of Sumatra, near the frontier of Aceh. At the entrance to the harbour is a dangerous bar. The chief exports are tobacco, and petroleum from wells near by.

Langland, William (c. 1332-c. 1400), Eng. poet, the probable author of the allegorical alliterative poem *The Vision of Piers the Plowman* and of *Richard the Redeless*. The *Vision* exists in about forty MSS., but there are three distinct versions, known as the A, B, and C texts, each of which is divided into prologues and *passus*, and consists of a *Vision of Piers the Plowman* and a *Vision of Douelle, Doctour, and Doleful*. B is nearly three times the length of A, and C contains a few hundred lines more than B. The evidence as to authorship is almost entirely internal. In B xv. 148 is the line, 'I have lyved in lond, quod I: my name is longe Wille,' and the Dublin MS. contains an entry concerning 'pater Willielmi de Langlond qui . . . moribatur in schipone under Whitewode . . . qui predictus Willielmus fecit librum qui vocatur Perys Ploughman.' Thus it is deduced that Wm. L. is the author and lived at Wyckwood in Oxfordshire, near the Malvern Hills, which are frequently mentioned in the poem. From the references to current events, A must have been written by 1362, B by 1370-77, and C by 1392, or possibly 1398. Dr. Skeat has argued that L. also wrote the alliterative poem on Richard II., in which case he was alive in 1399. It had always been assumed that the B and C texts were later productions of A and written by the same hand, until Prof. Manley, in his article in the *Cambridge History of English Literature*, argued that the poem was the work of at least five men, basing his arguments on certain

discrepancies between the three texts. His theory was attacked by M. Jusserand and by R. H. Chambers, and is not now generally accepted. The standard ed. of *Piers Plowman* is that of W. W. Skeat (1886, 1905). There are also eds. by J. F. Davis (1896); C. D. Parnely (1930); and N. Coghill (1949). See E. Bernard, *William Langland, a Grammatical Treatise*, 1874, and A. Bright, *Langland and the Seven Deadly Sins*, 1930.

Langley, Samuel Pierpont (1834-1906), Amer. astronomer, *b.* at Roxbury, Boston, Massachusetts. He was prof. of mathematics at the U.S. Naval Academy (1866), director of the Allegheny Observatory, Pittsburgh (1867-87), and secretary to the Smithsonian Institution, Washington (1887-1906). He made a special study of aeronomics, and succeeded in showing the feasibility of mechanical flight. He carried out his experiments on the Potomac R., and, after making sev. attempts with various machines, flights of over half a mile were made in 1896. L. invented the bolometer, with which he discovered, in 1881, the new spectrum, an extension of the invisible infra-red rays. He also observed the total solar eclipses of 1869, 1876, and 1878.

Langmuir, Irving (b. 1881), Amer. physicist, who has carried out researches upon the nature of valency, the structure of the atom, atomic hydrogen, etc. His invention of the atomic hydrogen blowpipe has proved of great commercial and industrial importance as a means of obtaining very high temps.

Langnau, com. in the canton and 16 m. E. of Berne, Switzerland, on the R. Rhodan. It manufs. cheese, thread, and all kinds of woodwork. It is the agric. centre and cap. of the Emmen-Tal. Pop. 8700.

Langport, mrkt. tn. of Somerset, England, on the R. Parrot. It was the scene of an engagement during the Civil war on July 10, 1645, in which the parliamentarian forces were victors. About 4 m. N. of L., near High Ham, is Turn Hill, from which a view is obtained across the battlefield of Sedgemoor to the Quantock Hills, Priest's House, Murchelney, 1½ m. S. of L., was acquired by public subscription in 1911. Pop. 800. L. Beds is the name given to a local facies of the white lias, about 20 ft. in thickness, of white or grey or cream-coloured limestones, with marl. The whole series is well developed near L. and Charlton Mackrell in Somerset.

Langreo, tn. of Spain in the prov. of Oviedo. It is a hilly agric. and fruit-growing place, and is also noted for coal-mines and iron industries. Pop. 43,700.

Langres (anc. Andematunum), tn. in the dept. of Haute-Marne, France, 40 m. N.E. of Dijon. It is strongly fortified, contains a fine cathedral, and interesting Roman remains. Diderot was *b.* here. It is celebrated for its manuf. of fine cutlery; also it makes leather goods and vinegar and has other brewing works. Pop. 7500.

Langson, or Langshon, tn. of Tongking, Viet-Nam. It is 82 m. N.E. of Ha Noi in the centre of a small plain on the Sunchi Kiang. Pop. 3500.

Langton, Stephen (c. 1150-1228), archbishop of Canterbury, rendered his life of vicissitudes famous by the strong stand he made in opposing authority, whether of king or pope. In the univ. of Paris he attained to a high rank by his proficiency in theology and philosophy, and in 1207 was consecrated to his archbishopric by Pope Innocent III. It was not till 1213 that L. was formally recognised by King John. At a meeting in St. Paul's (1214) he urged the confirmation of Henry I.'s charter, a suggestion which directly inspired certain of the barons to draw up the Great Charter, and in the following year was suspended from his see for not enforcing the papal censure of the barons. See F. M. Powicke, *Stephen Langton*, 1928.

Language. This term indicates a highly symbolical method of articulate utterances for conveying ideas. Some scholars define L. as a system of arbitrary vocal symbols by which members of a social group co-operate and interact. There are other means of expressing ideas, such as signs and inarticulate sounds. The former may take the place of articulate speech, or, more commonly, emphasise or modify the sense of the uttered word. The latter belong principally to animals, and in the human species express the simple ideas of infants and of those under stress of emotion preventing more deliberate utterance, but neither of them is as complete as L. It will suffice to point out the contrast of the immense variability of human speech with the simplicity, the invariability, and monotony of animal cries.

See also LANGUAGE, ORIGIN OF; LANGUAGES, CLASSIFICATION OF; LINGUISTIC SCIENCE; PHILOLOGY.

See H. Paul, *Prinzipien der Sprachgeschichte* (5th ed.), 1920; E. Sapir, *Language*, 1921; J. Vendryes, *Le Langage*, 1921; F. de Saussure, *Cours de linguistique générale*, 1922; O. Jespersen, *Language, its Nature, Development, and Origin*, 1922, and *Mankind, Nation and Individual*, 1946; A. Trombetti, *Elementi di glottologia*, 1922-3; C. K. Ogden and I. A. Richards, *The Meaning of Meaning*, 1923; K. Britton, *Communication: a Philosophical Study of Language*, 1939; L. H. Gray, *Foundations of Language*, 1939; M. Schlanoh, *The Gift of Tongues*, 1943; and E. H. Sturtevant, *An Introduction to Linguistic Science*, 1918.

Language, Origin of. Since ant. times various theories have been advanced as to the origin of L. It was formerly assumed, and it is still believed by some people, that ready-made speech was a direct gift from the Creator to the first man (Gen. xi. 1-9). This theory, upheld for instance in 1766 by Stussmühl, has been accepted as recently as in 1918 by H. Homyer. The ant. Egyptians attributed the creation of speech to Thoth; the ant. Indians to the god Indra; Chinese myths to a demigod who first gave names to animals and plants; Gk. tradition to Hermes; the ant. Scandinavians to the 'third son of Borr,' who gave men 'form, speech, hearing, and sight.' Another theory, the 'conventional' one,

suggested that L. was a conscious invention of man; far from being a gift from the Creator to mankind, it was a gift from mankind to the Creator. It is interesting to note that some scholars found in Gen. ii. 19-20 'an adequate and straightforward account of the human invention of speech': '... and whatsoever the man called every living creature, that was the name thereof. And the man gave names to all cattle, and to the fowl of the air, and to every beast of the field. . . . On the other hand, in the opinion of the eminent linguist Richard A. Wilson, the emergence of consciousness in human beings freed man intellectually, via the process of language, from space and time and set him apart from other animals.

The third main theory, that of the 'naturalist' school, is that L. was a spontaneous product of human nature. When Darwin pointed out the biological kinship of man with lower animals, it became the intellectual fashion to look for 'evolution' in all matters concerning living things, including L. There was the *bow-wow* theory (derisively so called by Max Müller) suggesting that primitive words imitated natural sounds, especially those made by animals. This is also known as the 'onomatopoeic' theory and is exemplified by such words as lullaby. There was the *pooh-pooh* theory (also Müller's term), propounding that the primitive words were ejaculations called forth by strong emotions, such as surprise, joy, grief, pain, dread. This theory is also known as 'interjectional.' Some scholars suggested that the expression of fear was connected with a high sound like *Eng. ee*, lament by a deep one resembling *Eng. oo*, joy by a series of repeated *ah*. Müller himself at first suggested (but soon abandoned) the 'nativistic' or 'echo' theory, called derisively by his friends the *ding-dong* theory. It is the theory of typical sounds, according to which there is an inner harmony or agreement between sound and sense; an 'instinct of speech' led to the first utterance, which was a 'sonant sign' of the consciousness of some common act. 'There is a law which runs through nearly the whole of nature, that everything that is struck rings. Each substance has its peculiar ring.' Similar is the *yo-ho* or *yo-he-ho* theory. 'Under any strong muscular effort it is a relief to the system to let breath come out strongly and repeatedly, and by that process to let the vocal chords vibrate in different ways. . . . The sounds 'would come to be associated with the idea of the act performed and stand as a name for it; the first words would accordingly mean something like "heave" or "haul."'

Other scholars suggest the 'gestural' or 'gesture' theory, which 'cannot explain many particular points of various languages, but it does clearly show the principle at work in the creation of languages.' In Sir Richard Paget's opinion, 'the original form of expression of all human ideas must be supposed to be that of bodily pantomime. . . . As he acted with his body, and more particularly with his hands, his tongue followed suit without

his knowing it. . . . The combination of mouth gesture and air current then produced speech.' Finally Jespersen's 'inductive' theory suggests the inferring of a general law from a number of particular instances. He traces the modern Ls. as far back as possible, until he reaches 'uttered sounds of such a description that they can no longer be called a real language.' This may be considered as scientific, but it is far from providing a solution of the vexed problem.

All these theories indeed explain only a very small part of L.: they hardly touch the core. Linguists now agree that the data at our disposal do not provide sufficient material for the solution of the problem of the origin of human speech; but during recent decades much knowledge has been gained of the prehistoric stages of the linguistic families (q.v.). Jespersen has suggested the following three main fields of investigation which, in his opinion, may help to solve the problem; but none of them has, so far, yielded any positive results. (1) *The language of children*: 'Here, in the child's first purposeless murmuring, crowing, and babbling, we have real nature sounds; here we may expect to find some clue to the infancy of the language of the race.' However, as Eric Partridge pointed out, 'mankind started from scratch, mankind had no words and no teacher; a child learns an already existing language, hears words all around him, has several teachers.' (2) *The language of primitive races*: Prof. E. H. Sturtevant rightly points out that 'as far as we know there is no indication that any language spoken to-day has had a shorter history or a slower development than any other.' (3) *The history of language*: 'The recorded history of language, even when supplemented by the prehistoric reconstructions of the comparative method (. . .), covers only a small fraction of the development to which language has been subjected since its origin. We can learn from the total of our material a great deal about the latter stages of this development, but it does not carry us appreciably nearer the beginning' (Sturtevant).

The problem of the origin of L. is strictly connected with the problem of its *monogenetism* or *polygenetism*, i.e. Was there a single or multiple origin of speech? Have all the existing forms of speech, and those which existed in the more or less distant past, descended from one L.? Is every L. thus related to every other? No answer can be given to these questions. Apart from the scholars who still believe in their own interpretation of the biblical story (see above), the theory of linguistic monogenetism has been upheld by eminent linguists such as the It. Prof. Alfredo Trombetti, while the polygenetic theory has been propounded by other scholars such as Friedrich Müller.

See also LANGUAGE; LANGUAGES, CLASSIFICATION OF; LINGUISTIC FAMILIES; LINGUISTIC SCIENCE.

See W. D. Whitney, *Life and Growth of Language*, 1882, and *Language and the Study of Language*, 1910; R. L. Garner,

Apes and Monkeys: their Life and Language, 1900; E. H. Sturtevant, *Classical Weekly*, xvi., pp. 34 ff., 1922, and *An Introduction to Linguistic Science*, 1948; O. Jespersen, *Language, its Nature, Development, and Origin*, 1922; J. Vendryes, *Language, a Linguistic Introduction to History* (trans. P. Radin), 1925; R. M. Yerkes and B. M. Learned, *Chimpanzee Intelligence and its Vocal Expressions*, 1925; R. M. Yerkes, *The Great Apes*, 1929; W. N. and L. A. Kellogg, *The Ape and the Child*, 1933; R. A. Wilson, *The Miraculous Birth of Language*, 1939, 1948; G. Lane, *Studies in Philology*, xlii., pp. 465 ff., 1943; E. Partridge, *The World of Words*, 1948; W. S. Allen, 'Ancient Ideas on the Origin and Development of Language' (with bibliography), *Transactions of the Philological Society*, 1948 (London, 1949); and J. Piaget, *Language and Thought of the Child*, 1948.

Languages, Classification of. L. can be studied either for practical purposes, i.e. as means of communication between members of a social group, or as a branch of knowledge in which they cease to be a means and become themselves the chief object of inquiry. They may be classified either according to their structure or according to their relationship with other L. (see LINGUISTIC FAMILIES).

Classified according to their structure, the 2500 to 3000 languages of the world fall into three groups, known as *isolating* or *monosyllabic* (neither of these terms is exact), *agglutinating* (or *agglutinative*), and *inflecting* (or *inflective*). The type specimen of isolating L. is Chinese. There are various other more or less isolating L. in S.E. Asia and in Africa (where there are 700 different L.). Many of these L. are monosyllabic; Chinese, which was probably once an agglutinating language, is not pure monosyllabic, i.e. the suffix -ch'ü, corresponding to Eng. '-ness', freely attached to adjectives, transforms them into nouns: hán-ch'ü, 'goodness' (from hán, 'good'), ch'ang-ch'ü, 'length' (from ch'ang, 'long'). There are bisyllabic compounds having quite different meanings from those of their component parts, i.e. t'ung-hsi means 'thing', although t'ung means 'east' and hsi means 'west'. However, by far the greatest number of words are either rude monosyllables (exactly as 'housemaid' is made from 'house' and 'maid'). Moreover, the root never changes; the same word can be a verb, a noun, an adjective, an adverb (e.g. ta means 'great' or 'greatly' or 'greatness' or 'to be great', etc.). The meaning of a word is determined only by its place in the sentence (e.g. wó p'ü p'à t'ü means 'I not fear him'; t'ü p'ü p'à wó means 'he not fears me'). There is thus no Chinese grammar apart from syntax.

In speaking Chinese or an allied language (such as Burmese) voice inflection is of importance in giving the proper meaning to a word. The characteristic Chinese 'tones' are indeed just as important as the vowels themselves; they are so characteristic in some L. that the latter are sometimes termed polytonic. A word

pronounced on a level tone (˘) means one thing; on a rising tone (ˊ) another; on a dipping tone (ˋ) another; and on a falling tone (ˊˋ) another. Without the tone, the word has some other meaning, or, rather, no meaning at all. These tones have nothing to do with stress or length or abruptness of the Indo-European L.; they are indeed acoustic pithches or musical stresses, or changes of pitch and pitch only. The number of tones varies from language to language, from dialect to dialect. While, for instance, Burmese has only two tones, Siamese and Cantonese have each six.

The agglutinating L. form the largest of the three groups. To it belong those L. (e.g. Jap., Korean, the Caucasian forms of speech, the ant. Sumerian and Elamite, the Ural-Altaic family, various Amerindian linguistic groups, and many others) in which root words are united by juxtaposition only, i.e. if it is desired to modify the sense of a word in respect to time, place, or other relation, this is done by adding a prefix or a suffix, i.e. by incorporation of a vowel or a syllable with the main word. Many Eng. words, once classed as compounds, are agglutinated words, e.g. aforementioned, offshoot, matter-of-fact, fishmonger, homesick, and so forth. Various Amerindian dialects are not only agglutinating but polysynthetic or incorporative, i.e. many single words incorporate the conception of a whole sentence. This may be seen, for instance, in such names as that of the famous Aztec 'emperor' Montezuma or Montecuzoma (really Montecuzomal-thucamina), meaning 'When-the-chief-is-angry-he-shoots-to-heaven.'

Inflecting (from *inflect*, meaning to bend, to change the form of, to vary) L. are those in which words are susceptible of some slight modifications, which are known to grammarians as inflections, or flexions, or internal changes. This term may be applied to the changes in verb forms (by conjugation) or in noun forms (by declension) by the addition of one or more letters (school, schools; class, classes; (to) love, (he) loves; loved, beloved), or by changes within the words themselves (man, men; foot, feet; (to) write, wrote; may, might). Inflecting L., however, contain both monosyllabic and agglutinate as well as inflected words. In modern Eng. we have few inflections left, though at one time the language had many. The major ones are those which have to do with numbers and tenses respectively. Ant. Indo-European L. (e.g. Sanskrit, Gk., Lat.), and the modern Ger., Russian, Polish, or Lithuanian, have numerous inflections. The Lat. noun, for instance, had seven declensional endings, nominative, vocative, accusative, genitive, dative, ablative, and locative. Lat., Gk., Ger., Polish, and other verbs have many suffixes to show tense, number, gender, mood, activity, or passivity of the action, and so forth.

In the other main inflecting linguistic family, that is in the Semitic L., internal variation in the roots plays the most important part in inflection. One striking feature of grammatical structure is

common to all Semitic L., i.e. a marked preference for verbal roots using three consonant sounds. The characteristic core of the word, be it a noun or a verb or an adjective, called the trilateral root, gives us the fundamental conception, and is represented by consonants, while the vowel sounds (either as prefixes or suffixes or as changes within the words) give us only the complements, the details, such as the part of speech, the voice, the mood, the tense, the declension, i.e. in Heb. the consonantal abstraction of the root k-t-b indicates any word having a meaning connected with writing, although there is no such word as ktb. On the other hand ktb means '(I am, you are, he is) writing'; 'ktb means 'I shall write'; katab 'he wrote'; ketabim 'writings,' and so on. See also INDO-EUROPEAN LANGUAGES; LANGUAGE; LANGUAGE, ORIGIN OF; LINGUISTIC FAMILIES; and bibliographies of these articles.

Languedoc, former prov. of France, which became united under one authority about the beginning of the thirteenth century. The name is 'Provencal' and means 'the tongue of oc,' oc being the S. form of the N. *out*. In 1591 L. disappeared, being replaced by the eight depts. of Haute-Loire, Lozère, Ardèche, Aude, Tarn, Hérault, Gard, and Haute-Garonne.

Languet, Hubert (1518-81), Fr. Huguenot, writer and diplomatist, b. at Vitteaux in Burgundy. He studied at the univ. of Poitiers, Bologna, and Padua, and spent much time in travelling through France, Italy, Spain, Germany, Sweden, Finland, and Lapland. In 1559 he entered the service of Augustus I., elector of Saxony, and showed great ability in organising the Protestants. He represented the elector at the Fr. court (1561-1572), and was with him at the siege of Gotha (1567), about which he wrote in *Historia Descriptio*. His speech on behalf of the Protestant princes in 1570, before Charles IX. of France, nearly cost him his life, and he narrowly escaped death on St. Bartholomew's Day, 1572. He was at the imperial court as representative of the elector (1573-77), after which he spent most of his time in the Netherlands. His writings, which consist chiefly of letters to Augustus of Saxony, the chancellor Mordelien, Camerarius, and Sir Philip Sidney, are important for the hist. of the sixteenth century.

Lanids, see SHRIKE.

Lanier, Sidney (1842-81), Amer. poet and prose writer, made an heroic struggle against the ravages of consumption, which finally mastered him. He graduated with honour from Oglethorpe College, and on the outbreak of the civil war joined the Confederate army. In 1864, whilst acting as a blockade runner, his ship was captured, and for five months he was confined in a Federal prison. Here his fate, which he had learned to play as a boy, helped to lessen the tedium of imprisonment. In 1873 he was flautist in the orchestra at the Peabody concerts, Baltimore, and in 1876 became lecturer on Eng. literature

at Johns Hopkins Univ. Such poems as *The Marshes of Glynn* (1881) and *The Revenge of Hamish* entitle him to the first place after Poe among the poets of the S., whilst the *Science of English Verse* (1880) exhibits his mastery over prose, and his *Letters* (1899) illustrate the charm of his personality and his Stevensonian pluck.

Lankester, Sir Edwin Ray (1847-1929), Eng. zoologist and biologist; b. May 15, in London; eldest son of Dr. Edwin L., coroner for Central Middlesex. Educated at St. Paul's School, Downing College, Cambridge, and Christ Church, Oxford. Fellow and lecturer of Exeter College, 1872; he accepted in 1874 the chair of zoology and comparative anatomy at Univ. College, London. F.R.S. 1875. In 1890 he gave up his work in London, and, for the next seven years, lectured on comparative anatomy at Oxford. He was director of the natural hist. depts. in the Brit. Museum, 1898-1907. He founded the Marine Biological Association and became its president, 1892; he became vice-president of Royal Society, 1896. From 1869 he ed. the *Quarterly Journal of Microscopical Science*. Mude K.C.B. 1907, in which year he presided over the Brit. Association. His pubs. include *Comparative Longevity* (1871); *Degeneration* (1880); *Extinct Animals* (1905); *Science from an Easy Chair* (1910-12); *Diversions of a Naturalist* (1915); and *Great and Small Things* (1923). He ed. the well-known *Treatise on Zoology* (1900-1909).

Lannes, Jean, Duke of Montebello (1769-1809), Fr. marshal, was one of Napoleon's greatest generals: 'I found him,' said the emperor, 'a dwarf, and lost him a giant.' B. of humble parents, he was bred to the dyer's trade, but in 1792 joined the army. The times were auspicious for the rapid rise of any youth of talent. According to Bonaparte he fought in fifty-four battles and 300 combats, among them being Montenotte and Millesimo (1796), Aboukir (1797), Châtillon, Montebello, and Marengo (1800), Wertingen and Austerlitz (1805), Jena (1807), Tudela (1808), and Eckmühl (1809). The finest thing he ever did, after his defeat of the Austrians at Montebello, was his brilliant assault of Saragossa (1809). His fall at the battle of Essling was a disaster which Napoleon was the first to appreciate. See lives by C. Thoumas, 1891, and C. von Montebello, 1900.

Lannion, riv. port in the dept. of Côtes-du-Nord, France, on the Léguer, 54 m. E.N.E. of Brest. It has a harbour, fisheries, and considerable trade. The manufs. are linen, leather, rope, etc. Pop. 6400.

Lanolin (E) consists of the purified wool-wax of sheep containing about one-fourth of water. The rude wax is taken from the wool by extraction with a volatile liquid or a soap solution, the latter being treated with acid to precipitate the wax, which is then purified by boiling with caustic soda. The crude wax, free from water, is styled in pharmacy *adeps lanae* or *anhydrous l.* It is a yellow greasy solid with a characteristic odour,

which will form emulsions with a high percentage of water. The purified wax consists essentially of a mixture of sterols and aliphatic alcohols with their esters. Potassium, sodium, and calcium soaps may also be present. L. is used in pharmacy as a diluent for surface application, and in leather-dressing.

Lanrezac, Charles Louis Marie (1852-1925), Fr. general, b. at Pointe-à-Pitre, Guadeloupe. Entering St. Cyr in 1869, he fought in the Franco-Ger. war and in Tunis. On the outbreak of the First World War he was in command of the Fifth Army, on the right of the Brit. expeditionary force. He was removed by Joffre, Sept. 3, 1914. In 1920 he wrote an account of the early months of the war.

Lansbury, George (1859-1940), Eng. Labour leader; b. in a tollhouse between Halesworth and Lowestoft, in Suffolk, son of George L., railway contractor's time-keeper. He spent his childhood in Sylsbury, Greenwich, Bethnal Green, and Whitechapel, attending elementary schools. As a lad worked at many jobs, including unloading coals for a railway company. Married at twenty-one, he emigrated in 1884, and worked at various kinds of heavy labour around Brisbane. Returning in 1885 he agitated against emigration practices, the result being the estab. of the Emigrants' Information Office. He worked for the Liberal party and agitated for an eight-hour day at the National Labour Conference, Manchester, 1889. Later he joined the Socialists. He was a poor law guardian from 1892, and hor. councillor from 1903. In 1910 he was elected to Parliament as Labour member for Bow and Bromley. He was mayor of Poplar, 1919-20, and, with the bulk of the hor. council, was imprisoned for six weeks, autumn 1921, for refusing to pay co. precepts because of the hor.'s poverty. Ed. *Daily Herald* (weekly *Herald* during the First World War), 1912-22, and *Lansbury's Labour Weekly*, 1925-27. He re-entered Parliament for Bow and Bromley, 1922, and became first commissioner of works, 1929-31, as such gaining prominence by projects designed to popularise London parks and open spaces. After the general election of 1931, he became leader of the parl. Labour party, resigning in 1935, as his strongly pacifist views were not accepted by the majority of the party, and he was succeeded by Clement Attlee. In 1937 he visited Hitler and Mussolini in an attempt to persuade them towards peace. His integrity and idealism earned him the respect of members of all political parties, and he was especially beloved in the E. end of London, where his humanitarian work had been carried on for nearly half a century. See his *What I saw in Russia* (1920); *My Life* (1928); *My England* (1934); and *My Quest for Peace* (1938, an account of his visit to Hitler and Mussolini). A life by his son appeared in 1934.

Lansdown, eccles. par. in the N.E. of Somersetshire, England. It forms a N.W. suburb of Bath, and is noted for its race meetings which take place on L. Hill about 2 m. from the tn. Pop. 1400.

Lansdowne, Baron, *see* GRANVILLE, GEORGE.

Lansdowne, Henry Charles Keith Petty Fitzmaurice, fifth Marquess of (1845-1927), Brit. statesman, b. Jan. 14, eldest son of fourth marquess, was a favourite pupil of Dr. Jowett at Balliol College, Oxford. When he first interested himself in politics, he joined the Liberal party and served



WILLIAM PETTY, FIRST MARQUESS OF LANSDOWNE

the gov. as lord of the treasury 1869-72, under-secretary for war 1872-74, and under-secretary for India 1880. Governor-general of Canada 1883-85, then viceroy of India until 1894. When Gladstone introduced Home Rule for Ireland he became one of the Liberal Unionist party. From 1895 to 1906 he was once more a member of the Cabinet, at first as secretary for war (until 1900), and afterwards as foreign secretary. After Lord Salisbury's death he was Unionist leader in the House of Lords. He joined Asquith's Coalition Gov., 1915, as minister without portfolio. On Nov. 29, 1917, the *Daily Telegraph* pub. his remarkable communication known as the L. letter (*q.v.*). He was profoundly anxious for the reform of the House of Lords. *See* life by Lord Newton, 1929.

Lansdowne, Henry Petty-Fitzmaurice, third Marquess of (1780-1863), Eng. statesman, one of the most prominent and influential members of the Whig party in his time. A fellow member with Brougham and Sidney Smith of the Speculative Society of Edinburgh, he left the univ. of that city and went to Trinity College, Cambridge, where he graduated as M.A. in 1801. Having early entered Parliament, he was a member of Grenville's short-lived ministry of 'All the Talents' (1806-7). Throughout his public life he was a zealous advocate of Free Trade, the abolition of slavery, and Catholic emancipation. It was his enlightened views on this last question which lost him his seat for Cambridge Univ. (1807). President

of the council from 1831 to 1841, and again from 1846 to 1852, he assisted in the passage of the Reform Bill (1832), and refused the premiership and a dukedom.

Lansdowne, William Petty, first Marquess of (1737-1805), Irish statesman, attended Christ Church, Oxford, and later joined Wolfe's regiment. In 1760 he rose to colonel, having greatly distinguished himself during the Seven Years war at Minden and Kloster-Kampen, and in the same year entered Parliament. In his principles he was closely associated with Pitt, whom he supported on the question of Wilkes's expulsion. When Pitt became Premier Earl Shelburne, as he then was, accepted the secretaryship of state (1766), but resigned two years later, as his colleagues persisted in a policy of aggression towards the Amer. colonies. For a few months in 1782 he was Premier, but the coalition of Fox and North secured his speedy downfall.

Lansdowne Letter, letter written by Lord L. (*q.v.*) to the *Daily Telegraph*, Nov. 29, 1917, arguing from the duration of the war the necessity for a revision of the Brit. war aims, and, inferentially, admitting that the freedom of the seas did not exist before the First World War. The views expressed in the letter were speedily repudiated by the Brit. Gov., which declared its unswerving adherence to its war policy as previously stated. The letter caused astonishment both in Great Britain and in the U.S.A., but was soon forgotten.

Lansford, bor. of Pennsylvania, U.S.A., in Carbon co., 4 mi. N.E. of Tamaque. It has important coal-mines. Pop. 8700.

Lansing, Robert (1864-1928), Amer. politician and lawyer. Early in his legal career he devoted himself to international law, and represented the Amer. Gov. in various state arbitrations. In 1893 he was associate counsel in the Behning Sea Arbitration, and later was appointed counsel in the Behring Sea Claims Commission. Later he became adviser to the U.S. Gov. on international law, and from 1912 to 1914 he was U.S. agent in the Anglo-Amer. Claims Arbitration. He was counsellor to the state dept. until 1915, when he succeeded Wm. Bryan as secretary of state. He was chosen as one of the five delegates to represent America at the Inter-Allied Peace Conference in Paris in 1919. He pub. *The Peace Negotiations* (1921) and *The Big Four and Others of the Peace Conference* (1921). His *War Memoirs* appeared in 1935 and *The Lansing Papers, 1914-20*, in 1939-40.

Lansing, cap. of Michigan, U.S.A., in Ingham co., situated on elevated land on both sides of the Grand R., 68 mi. S.S.W. of Bay city. It is an important manufacturing centre, owing to its fine water power, and manufs. all kinds of automobile machinery as well as building materials, leather goods, garments, etc. The state library and state agric. college are here. It is an air port. Pop. 78,700.

Lansburg, tn. of New York, U.S.A., in Rensselaer co. It is situated on the Hudson R., opposite the mouth of the Mohawk R. There are manufs. of brushes,

oil-cloth, and clothing. It now forms part of Troy. Pop. 13,000.

Lanson, Gustave (1857-1934), Fr. literary critic, b. at Orleans; educated at the lycées of Orleans and Charlemagne. Director of the École Normale Supérieure. Prof. of Fr. literature at the Sorbonne and, after the death of Brunetière, the chief influence in guiding students of Fr. literature. His method of criticism was essentially one of historical and biographical research, a method which in less able hands might tend to subordinate literature to the catalogue label. His *Histoire de la littérature française* is unrivalled by any other work of similar range. In addition he wrote valuable studies of *Nivelle de la Chaussée* (*Nivelle de la Chaussée et la comédie française*, 1887), *Bosquet, Boileau, and Corneille*; an ed. of the *Lettres philosophiques de Voltaire* (1908); critical eds. of the *Méditations de Lamartine* (1915); and a *Manuel bibliographique de la littérature française moderne* (new ed. 1921). Vice-president of the Société d'histoire littéraire de la France and president of the Société des textes français modernes.

Lanterloo, see LOO

Lantern, name given to a case to contain a light. It generally consists of a framework of metal with glass, horn, or mica windows, or some other transparent material. The light may be supplied by a candle, oil, etc. In engineering, any L-shaped construction is often called a L., e.g. a L. pinion. See also LAMP.

Lantern, in architecture an ornamental turret erected on the roofs or domes of churches for the purpose of ventilating and giving light. They are most commonly octagonal in shape and with glazed or unglazed windows. Ls. may be found in England, at York and Ely; in France, at Coutances and St. Ouen; and in Spain, at Salamanca.

Lantern-fly (*Fulgurina*), family of tropical insects of the order Hemiptera, in many of which there is a large outgrowth from the head, once believed luminous.

Lantern, Magic, see MAGIC LANTERN.

Lanthanum, symbol La, atomic number 57, atomic weight 138.9. One of the commonest of the rare-earth elements. Discovered in 1839 by Mosander by extraction from crude ceria. It is a white malleable metal which tarnishes in air, and is acted on slowly by water. Chemically it is very like cerium, and forms a basic oxide La_2O_3 , which dissolves in water to give a fairly 'strong' hydroxide. Forms many salts and a hydride, LaH_3 .

Lantsangkiang, see MEKONG.

Lanuvium, or **Lanivium**, anc. city of Italy, situated about 20 m. S.E. of Rome, southward of the Via Appia. It stood upon a hill, from which was obtained an extensive view of the surrounding country, and had a celebrated temple of Juno. The present vil. is noted for its vineyards.

Lanz, Luigi (1732-1810), It. archaeologist, was educated by the Jesuits for the priesthood, but the order being suppressed, he became keeper of the galleries of Florence (1775), and henceforward devoted his life to literature and the study

of antiquities. His *Storia Pittorica della Italia* (completed in 1796) has been widely trans., and, in that it was the first attempt to treat the schools of painting with historical sequence, is a landmark in art criticism. L. wrote also on the language and vases of anc. Etruria.

Laosag, tn. and port of Luzon, Philippine Is., in the prov. of Ilocos Norte. It is situated on the L. It. and includes the municipality of San Nicolás. There is a shipping trade in rice, Indian corn, sugar, and tobacco, cotton is extensively grown in the dist. Pop. 41,800.

Laocoon, in Gk. legend a priest of Apollo, who incurred the anger of that deity by his marriage and also by the solemn warning he delivered to the Gks. against admitting the treacherous wooden horse within the walls of Troy. Accordingly the vindictive god drove two huge serpents out of the sea to the altar of Poseidon at which L. with his two sons was officiating. The ghastly story of their death agonies, as the monsters coiled themselves about their limbs, forms one of the most tragic and vivid episodes in Virgil (*Æneid* II, ll. 199, et seq.). The contortions of father and sons are further illustrated in the famous 'Laocoon' group of the Vatican, which was discovered in 1506 near the baths of Titus. Pliny tells us it was fashioned by three Rhodian sculptors, Polydorus, Agesander, and Athenodorus. Curiously enough Lessing, when in his *Laocoon* he was discussing the limits of sculpture and poetry, chose this group as a type of excellence in statuary, although archaeologists now agree in assigning it to the decadent period of Gk. art. See H. Keller, *Goethe und das Laocoonproblem*, 1933, and study by M. Bieber, 1933.

Laodamia, in Gk. heroic legends the daughter of Acastus and the wife of Proteus. When her husband was struck down by a Trojan and slain in the very act of landing from his vessel, she prayed the gods to restore him to life, if only for three hours. The boon was granted, but, as Wordsworth tells, L. d. and went with her husband on his second journey down to Hades.

Laodicea, name of sev. cities most of which were founded by the Seleucid kings of Syria. The founder of the dynasty, Seleucus, is supposed to have named five of them after his mother, Laodice. The chief cities so called are: (1) *Laodicea ad Lycum*, on the banks of the Lycus in Phrygia, 6 m. S. of Hierapolis. It is supposed to have been founded by Antiochus II. (261-246 B.C.). It is famous as one of the seats of early Christianity, and, being favourably placed on the road leading from the Ionian cities to the Euphrates, it became a great commercial centre. The association of Laodiceans with lukewarmness originated in a reference in Rev. iii. 14-16. In early times there was a medical school here and a school of Sceptic philosophers. It was destroyed by an earthquake during the reign of Nero, but was rebuilt. Afterwards its prosperity declined owing to Turkish invasions, and it is now a pile of ruins,

known as Esk-Hissar. (2) *Laodicea Combastia*, in Lycania, on the borders of Phrygia and Paidia, modern Sorgan Ladik. (3) *Laodicea ad Mare*, named by Seleucus Nicator about 800 B.C. It is on the coast of Syria, about 75 m. N. of Tripoli, modern Latakia. See W. M. Ramsay, *Cities and Bishopricks of Phrygia*, 1895-97.

Lao-Ling Mountains, see CHANG-PAI-SHAN.

Laomedon, son of Ilus and the father of Priam, appears in Gk. legend as king of Troy. Poseidon built his city walls and Apollo tended his flocks. But the faithless ruler denied them their hire. Accordingly the sea-god dispatched a dragon to lay waste his country and Apollo sent a plague. Finally L. was slain by Heracles. The demi-god had rescued the king's daughter, Hesione, who was to have been sacrificed to Poseidon, and had not received the promised reward.

Laon, city of France and cap. of the dept. of Aisne, situated on a limestone rock, rising 650 ft. from the plain. Its cathedral, dating from the twelfth to the fourteenth centuries, is a fine specimen of Gothic architecture. On March 1814 a battle was fought here between the allies under Blücher and Napoleon I., the latter being defeated. L. was a place of importance under the Fr. kings. Captured by the Gers. early in the First World War, in 1916-17, it formed the S. pivot of the Hindenburg line (q.v.), which was attacked by the Fr. on April 16, 1917, under Gen. Nivelle, when launching the second battle of the Aisne (q.v.). The Fr., under Journaud (q.v.), entered the tn. on Oct. 13, 1918. The manufs. are nails, leather, earthenware, biscuits, etc., and there are numerous vineyards. Pop. 17,400.

Laos, general term for the former Fr. ter. of central Indo-China. The country is watered by the Mekong and its affluents, the Nam-Hlon and Nam-Ta, and by the Menam and Salwin. The Fr. protectorate existed from 1893 to 1940, but in 1946 N. and S. L., united into a single state, became part of the federation of Indo-China. The country was, prior to 1940, divided into twelve provs., the affairs of each being administered by a Fr. commissioner, assisted by native nobles, elected by the people. The pop. consists of Thais, Khas, and various mixed Indian and Chinese races. The chief products of the soil are tea, tobacco, cotton, rice, maize, and indigo. Fruit trees are abundant and teak forests provide material for an important industry. Gold, copper, tin, etc., are found, but are not exploited to any great extent. The most important industry is cattle-raising. A railway has been built on Rhone Is. A telegraph line connects Hué on the coast and railway in Annam with tns. on the Mekong. Area 83,604 sq. m. Pop. 1,023,300. See C. Gosselin, *Le Laos et le protectorat français*, 1900, and L. de Reinach, *Notes sur le Laos*, 1906.

Lao-Tze, or Lao-Tzu, Chinese philosopher, was the author of *Tao Teh King*, a treatise which has exercised the interpretative faculty of many learned commentators. According to Sze-ma Ch'ien

(c. 100 B.C.), L. was b. in 604 B.C. and was keeper of the royal library at the court of Chou in the prov. of Houan. In 517 B.C. he had an interview with Confucius, and in his old age, when the dynasty he served was growing weak, he left the royal domain and went into 'the regions beyond.' 'The Venerable Philosopher'—for such is one meaning of his name—taught the beauty of action free from selfish motive and having as an end only its own accomplishment: the world must roll on 'without striving or crying,' according to L., which is the 'way,' or 'word' (compare *Logos* of the N.T.). He inculcates the virtues of compassion and humility and the Christian doctrine of requiring good for evil, yet he was ever looking away from culture and back to pre-cultural times for his ideals. The polytheistic Taoism has little to do with his ethics. See also CHINA, *Chinese Literature*. See trans. by P. Carus, 1898, 1913; R. Wilhelm, 1911 ff.; A. Waley, 1934, 1942, and *Chinese Philosophy* (in Everyman's Library); and W. Bryner, 1947; also study by H. Stube, 1912, and R. Wilhelm, *Laotse und der Taoismus*, 1925.

La Pampa (Santa Rosa), ter. in the Central Argentine Republic, bounded by the Rio Colorado on the S. The surface is varied, with extensive forests, numerous streams and lakes, and fertile pasture lands. Breeding asses, mules, goats, sheep, cattle, horses, and pigs is an important industry. Wheat, alfalfa, and oats are the most important crops. The cap. is Santa Rosa de Tomy. Area 53,700 sq. m. Pop. 166,900.

Laparotomy, in surgery the operation of cutting through the abdominal wall, particularly by way of the flank or loin. It is frequently performed in order to enable the surgeon to discover by feeling the real cause of an intestinal disorder, and in the hands of a capable operator is not dangerous.

La Paz: 1. Dept. of N.W. Bolivia. An extensive plateau forms the N. portion, while it is mountainous in the S. Only potatoes, barley, and quinoa grow in the W. regions, which are watered by the Titicaca, and include part of Titicaca Lake. Eastward wheat, Indian corn, and fruits grow in plenty, whilst in the S. tobacco, sugar-cane, cacao, oranges, and other tropical products are freely cultivated. Illimani, Sorata, and other lofty peaks crown the Cordillera Real, whose main spurs run from N.W. to S.E. The celebrated Corocoro copper-mines lie near Desaguadero R., whilst the profitable tin-mines of Huayna Potosi and Chocobitaga are within easy distance of L. P., the cap. Area 43,000 sq. m. Pop. 1,173,300. 2. Cap. of Bolivia, situated on the Rio de la Paz, 30 m. S.E. of Lake Titicaca. The L. P. or Chuqulapo R. upon which L. P. is built in the deeply wooded valley of the Cordillera Real, was, it is supposed, the outlet of Lake Titicaca in earlier times. L. P. was founded in 1548 by Alonso de Mendoza who was drawn there by the rich alluvial gold ore. It lies 12,120 ft. above the sea and has a short and cold summer season, which accounts for the

prevalence of pneumonia and other lung diseases, though the incidence of pulmonary disorders is probably lessened by the fact that the inhab. abstain from house-fires as being conducive to disease. Only a relatively short time ago L. P. was an isolated tn., relying on coach and mule roads. To-day it has three routes of access by rail: it is served by a line from Antofagasta, Chile, a seaport formerly belonging to Bolivia; also by the railway which reaches the tn. from Ynini and Oruro (a former cap. of Bolivia) and Lake Poopo; the more recently built line from Arica and the S. railway of Peru (through Ynini and Oruro) both link L. P. with the Pacific coast. The transverse streets of the city are steep and irregular, the ground rising rapidly from the riv., and are mostly narrow and roughly paved, with numerous small bridges. The cathedral was begun in the seventeenth century when the mines of Potosí yielded abundant wealth, but it was never completed owing to subsequent poverty, though L. P. has been the seat of a bishop since 1603. The cathedral has a finely carved stone façade, facing on the great plaza. L. P. has a univ. and two mus., including a mineralogical museum. The old San Andrés Univ. has preserved many relics of the Inca ruins of Tiwanaco and other sites, rescued from the vandalism of railway builders. Degrees may be obtained in law, medicine, and theology, and there is also a commercial faculty. There is a normal school for training teachers of Indians. The successful school known as the Amer. Institute is subsidised by the gov. L. P. became the seat of gov. of Bolivia after the revolution of 1898, being the commercial metropolis and more accessible than the old cap., Sucre. Like Quito and Arequipa, L. P. has a large Indian pop., whose dress and occupations are in striking contrast with those of the Europeanised upper classes. The total pop. in 1946 was 300,000. The white (about 50,000) constitute the ruling and professional classes; they are descendants of Spaniards and other Europeans who have remained unmixed or but partially mixed with the aboriginal inhab. The *mestizo* class forms some 33 per cent of the pop.; they monopolise the petty tn. industries of small shopkeeping and are also artisans and mechanics. 3. Tn. in the Entre Ríos prov. of Argentina, situated on the Paraná, 530 m. N. by W. of Buenos Aires by riv. Pop. 9000. 4. Tn. on the Río Tunuyán, 75 m. S.E. by E. of Mendoza in Argentina. Pop. 4000. 5. The cap. of Lower California, Mexico. The tn. is tastefully laid out, has an excellent harbour in the bay of L. P. and does considerable trade in silver and agric. produce. There are pearl fisheries in the bay. Pop. 6000.

La Pérouse Island, see under LORD HOWE ISLAND.

Lapis Lazuli, highly prized ornamental stone of an azure colour, the sapphire of the ancients. A favourite stone with the Egyptians for amulets and ornaments, as well as scarabs, and also used by the Assyrians and Babylonians. L. L. usually

occurs in compact masses of a granular structure; the mineral is opaque with slight transparency at the thin edges. It has a hardness of 5 to 5.5 and a sp. gr. of 2.45. Its chemical composition varies, but the prin. constituent is *lazurite*, $\text{Al}_2(\text{SiO}_4)_3\text{Na}_4(\text{Al}_2\text{Si}_2\text{Na})$. Powdered L. L. was formerly the source of the blue pigment *ultramarine* (q.v.), but the latter is now made synthetically (see J. W. Mellor, *A Comprehensive Treatise on Theoretical and Inorganic Chemistry*, vol. vi., pp. 585-91). Medals, engraved gems, vases, and other ornaments have been made from L. L., being especially esteemed in Italy, and in Russia magnificent examples of its decorative use are to be seen on the columns of St. Isaac's Cathedral, Leningrad. L. L. occurs in Badakshan, in part of Siberia, and in the Andes. The name L. L. is also sometimes loosely applied to other minerals of a similar colour though of different chemical nature.

Lapithæ, The, were a mythical race of people inhabiting the mts. of Thessaly. Pirithous, son of Ixion and half-brother of the Centaurs, governed them. The legend runs that upon his marriage with Hippodamia, the Centaurs tried to carry off his bride and the other women. A fierce battle ensued, in which the L. were victorious. A symbolical meaning has been attached to this struggle, typifying the conflict between the Gks. and Persians.

Laplace, Pierre Simon, Marquis de (1749-1827), 1. a mathematician and astronomer, b. in humble circumstances at Beaumont-en-Auge, near Trouville, Normandy. As a youth he taught mathematics in a military school at Beaumont, and in 1767, through the influential assistance of D'Alembert, was appointed prof. of mathematics in the École Militaire, Paris. In 1796 he pub. his *Exposition du système du monde*, in which he stated the chief astronomical facts and theories, and in a note at the end expounded his famous 'molecular hypothesis.' His *Traité de mécanique céleste* (1799-1825) made him world-famous. Apart from his extraordinary analytic skill and far-sighted scientific sagacity, L. had a pure literary style which places his works on a level with Newton's *Principia*. His other treatises include *Théorie du mouvement* (1781) and *Théorie analytique des probabilités* (1812-1820). His (*Œuvres complètes*) were issued (1878-1901) in 13 vols. In his earlier years, it may be said that L.'s work was directed towards an explanation of the secular changes in the motion of the heavenly bodies, especially of the moon. It was during these years, too, that he collaborated with Lavoisier in carrying out experiments in the then new science of heat, which are still described in present-day text-books. His monumental work, the *Mécanique céleste*, was pub. in 1799, and the last of its five vols. in 1825. It covers all the problems of the solar system and is reckoned second only to Newton's *Principia*. But from the modern standpoint its most significant contribution to knowledge is the development of the idea of the potential; it is not too much to say that his equation of the potential

function is the most important single equation in the whole of physics. The *Mécanique céleste* is a most difficult book to read, and this is the more curious because he had previously pub. his popular account of celestial mechanics, the *Exposition du système du monde*, which book may be described as, in effect, the *Mécanique céleste* without any mathematics and is easy to follow. L.'s brilliance as a scientist remains undimmed



MARQUIS DE LAPLACE

with the years. His work on surface tension and on the velocity of sound, as well as his more important studies on attractions and probability, are still important, and in his own lifetime had a profound effect on the progress of knowledge. The Eng. school, hampered by the allegiance to the fluxions of Newton, and by anti-French sentiment, had made no progress, but L.'s work encouraged a new outlook. This began with the collaboration of Woodhouse, at Cambridge, with Babbage, John Herschel, and Peacock, in founding a new school of analytical methods, and had remarkable results in the hands of Adams and Clerk-Maxwell. (See 'A Very Extraordinary Man,' by J. G. Porter, in *The Listener*, March 23, 1949.) See also COSMOGONY. See Baron Fourier, *Eloge*, 1831; D. F. J. Arago, *Report*, 1842, trans. amongst his *Biographies* by Smyth and Grant; I. Todhunter, *Elementary Treatise on Laplace's Functions*, 1875; and D. V. Widder, *The Laplace Transform*, 1912.

Laplace's Equation, partial differential equation in connection with the theory of attractions discovered by P. S. Laplace (q.v.). By his discovery that the attracting force in any direction of a mass upon a particle could be obtained by the direct process of differentiating a single function, he made an important addition to every branch of physics, and more particularly heat, electricity, and magnetism. C. F. Gauss employed it in the calculation of the magnetic potential of the earth, and Clerk-Maxwell's interpretation of harmonics with reference to poles on the sphere threw

new light upon it. See SPHERICAL HARMONICS.

Lapland, name applied to an extensive region of N. Europe, inhabited by the Lapps. It has no political existence, and covers ter. in Norway, Sweden, Finland, and Russia, the first portion consisting of bold headlands and fjords, deep glaciers, long mt. lakes, and lake-fed rivs. Russian and Finnish L. is similar to the low-lying parts of Swedish L., but the surface is more level; marshes and the barren tundras of the Arctic Ocean become more frequent, and forests of fir and spruce abound. The climate is of a typical Arctic nature. For seven or eight weeks in winter the sun does not rise above the horizon and comparative darkness prevails except when the aurora borealis illuminates the snow-covered landscape. The cold is excessive. The summer lasts during three months, and is comparatively hot; during eleven weeks of it the sun never sets. L. gives little scope for husbandry, the soil being frozen a foot below the surface; the fisheries are important, and there are extensive copper-mines and iron deposits. The latter occur principally in Swedish L. where are some of the richest iron-mines in the world. At Kiruna and Gollvaren are mt. of ore said to be two-thirds pure iron. To serve the mining communities an electric railway has been constructed from Luleå on the gulf of Bothnia to Narvik on the Norwegian coast. The Lapps, a people of Finno-Ugrian stock, mostly live a nomadic life, fishing, fur-trapping, and hunting. The reindeer supplies most of the needs of the inhab., providing them with flesh, milk, and garments, and acting as a beast of burden. They are remarkably short in stature, and they have high cheekbones, wide mouths, small elongated eyes, and snub noses. They are a quiet, inoffensive people, and are extremely susceptible to religious impressions of a sensational character. To-day they all profess Christianity. The number of Laplanders is not supposed to exceed 30,000—19,000 in Norway, 6,100 in Sweden, 1,600 in Finland, and the rest in Russia. From the thirteenth to the seventeenth century they were practically in a state of slavery under the Swedish adventurers, the Birkarians. A flourishing colony of them has been estab. in Alaska. See Sir A. de Brooke, *A Winter in Lapland*, 1827; G. von Düben, *Om Lappland och Laparne*, 1873; E. Rac, *The White Sea Peninsula*, 1882; F. H. Butler, *Through Lapland with Skis and Reindeer*, 1919; H. Sutherland, *Lapland Journey*, 1939; and H. A. Bernatzki, *Lapland*, 1940.

La Plata, cap. of the prov. of Buenos Aires, Argentina, 30 m. E.S.E. of the city and 5½ m. from the coast, with which it is connected by railway and the port Ensenada. It was founded in 1882, and has grown into a city with a pop. of about 200,000. It has fine gov. buildings, theatres, a library, and a race-course; also a large museum rich in geological and archaeological collections and an astronomical observatory (founded in 1897), both of which have been taken over by the

univ. of L. P. A petroleum distillery, the largest in the world, was opened in 1925, and by the middle of 1926 was heating 2300 tons of crude petroleum daily. Many automatic petrol supply stations were opened in the streets of L. P. in 1926.

La Plata, Rio de, or Plate River, see PLATA, RIO DE LA, or PLATE RIVER.

Lapointe, Ernest (1876-1941), Fr.-Canadian statesman, b. in Temiscouata co., Quebec, and educated at Rimouski College, and at Laval Univ., Quebec. Called to the Bar, but took up politics and then set himself to master the Eng. language, of which he knew not a word. His reputation was well estab. at the end of the First World War, especially over the conscription controversy, and he might have succeeded Laurier (*d.* 1919) but for the importance of keeping him as leader of the Liberals. He was at once accepted as leader of Fr.-Canadian Liberalism and was returned for Quebec E., the constituency which Laurier had represented for forty years. A dominant figure in the govt. of Mackenzie King, he was minister of marine and fisheries and, later, of justice, a post he held until 1930 and again from 1935 till his death. Experience of wider fields of statesmanship began in 1922 when he was one of the Canadian delegates to the League of Nations. He signed a fishery treaty with U.S.A., the first treaty ever signed by a dominion minister endowed with plenipotentiary powers from the king. He was chief Canadian delegate to the Imperial Conference, 1929; Canadian delegate to the unveiling of the Vimy Memorial in 1936; and attended the coronation, 1937. In Sept. 1939 he made a great speech in the Canadian House of Commons arguing eloquently in favour of Canadian participation in the Second World War.

La Porte, city of Indiana in L. P. co., U.S.A., situated 16 m. E.S.E. of Chicago. There are beautiful lakes to the N. of the city, and it is frequented as a summer resort. It manufs. flour, woollen goods, and machinery, and is the centre of a farming dist. Pop. 16,100.

Lappa, port of China, at the entrance of the Canton R., opposite Macao.

Lappmark, name of five dists. or marches in N. Sweden inhabited by Lappa. They are known under the names of Asele, Umea, Pitca, Lulea, and Tornea, and cover an area of 14,667 sq. m. Pop. 6100 (all Lapps).

Lapps, see LAPLAND.

Lapse. A devise of real estate and a bequest of a legacy are said to L. where the devisee or legatee *d.* in the lifetime of the testator. But by the Wills Act, 1837, no L. occurs: (a) when the donee is a child or other issue of the testator and dies leaving issue at the testator's death; and (b) when the gift is of an estate tail (see ESTATE, ENTAIL) and the tenant in tail leaves issue living at the testator's death capable of inheriting under the entail. In both (a) and (b) the property passes just as if the donee had *d.* immediately after the testator. Lapsed legacies fall into the residuary estate.

Lapwing, see PLOVER.

Laquedem, see under JEW, THE WANDERING.

Lar, or Lars, Etruscan word meaning lord, king, or hero. It was employed as a prenominal and borne by Persena (I. Persena of Clusium), Tolminius, and others. See C. O. Muller and W. Deoche, *Die Etrusker*, 1877.

Lara, stato of Venezuela, bounded to the S. by Portuguesa and to the N. by Falcon. The Tocuyo R. traverses L. and there is a railway to the coast at Turacas. The cap. is Barquisimeto. Area 7612 sq. m. Pop. 332,900.

Laraiche, or El Araish (the garden of pleasure), fortified seaport tn. of the Sp. zone of Morocco in Africa, overlooking the Atlantic Ocean, 45 m. S.S.W. of Tangier. There are ten military forts. The tn. has a spacious market-place. Pulse, beans, wheat, wool, hides, and wax are exported. L. is the terminus of a railway 40 km. long and has an air-line to Seville. Pop. 29,100.

La Ramée, Louise de, see OUIDA.

Laramie: 1. Co. seat of Albany co. Wyoming, U.S.A., 40 m. N.W. of Cheyenne on the Union Pacific railway. Has an altitude of 7000 ft., and is enclosed by mts. and is in the midst of picturesque scenery. Contains the Wyoming Univ. and Wyoming Agric. College, and has manufs. of glass, leather, flour, large machine shops, and oil refineries. It is the centre of a stock-raising, lumbering and mining dist. Pop. 10,600. 2. Riv. in Colorado, flowing N.E. through S.E. Wyoming; it is about 200 m. long, and drains part of L. co.

Laramie Strata, appearing in the intermediary age between the Cretaceous and Tertiary, containing seams of lignite. They are well developed in Utah and Wyoming, U.S.A.

Larat Island, see under MOLUCCAS or SPICE ISLANDS.

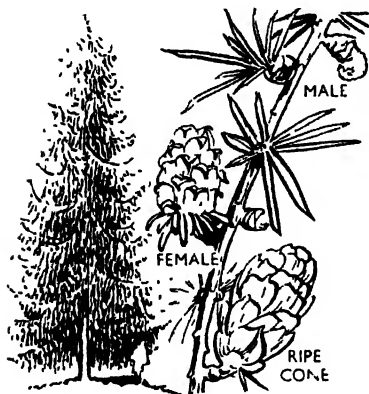
Larbaud, Valéry (b. 1881). Fr. writer, b. at Vichy. Educated at his native tn. and at the Sorbonne, he has trans. Coleridge, Samuel Butler, and James Joyce from Eng. and Ramon Gomez de la Serna from Sp. His first considerable original production was *Poesies de A. O. Barnabooth* (1905), 'Barnabooth' being a reputed S. Amer. millionaire in search of happiness. The poems are written in free verse, showing the influence of Walt Whitman. Some years later he pub. the prose work, *J. O. Barnabooth, son journal intime* (1913). He has also written a short novel, *Fernanda Marquez* (1906), sev. vols. of short stories, and a collection of critical essays.

Larbert, par. and vil. of Stirlingshire, Scotland, on the Carron, 3 m. S.E. of Stirling. Coal-mining is extensively carried on. Pop. 12,000.

Larboard, obsolete nautical term, now superseded by 'port,' that side of a vessel which is on the left hand of an observer facing forward, while starboard refers to the right-hand side.

Larceny, or Theft, wilfully wrongful taking and possession of the goods of another against his will and with the intention

of depriving the owner of his property in them. L. is either simple or compound, the latter being theft accompanied by circumstances of aggravation, e.g. robbery with violence, theft by a public servant. L. is distinguishable from: (a) false pretences, in that possession only is obtained, while in the latter crime the owner intentionally parts with his right of property as well, although induced so to do by some



LARCH II

false representation; and (b) embezzlement, in that L. by a clerk or servant connotes the stealing of property which at the time is in the actual possession of the master, while in embezzlement the property is intercepted. Only personal goods can be the subject of L. There were formerly a great number of things, like trees, plants, deeds, fixtures, coal from a mine, chattels real (q.v.), choses in action (q.v.), wills, animals *feræ naturæ* (i.e. wild or unreclaimed), and dogs, or other domesticated animals not ordinarily used for food, which at common law could not be the subjects of L. The theft of most of these things is now, however, punishable as for simple L., while the theft of coal or other ore from mines, wills, records, and deeds is met with much heavier punishment than L., that of wills being punishable to the extent of a life term of penal servitude. If the taking is bona fide under some colour of right, it might ground a civil action in trespass (q.v.), but would not be larcenous. If the goods are taken by a trick, the owner not intending to part with the ownership of the goods, it is L., e.g. A gets half a dozen pairs of boots sent to him ostensibly for the purpose of buying one selected pair and then converts all of them to his own use. Welshing is a common form of L. by trick. To constitute L. there must be a complete physical taking (called asportation). This, however, is in law interpreted to mean merely that the goods must have been

bodily displaced as distinguished from being merely handled, or if attached or connected in some way (e.g. watch and chain) completely severed. It is not essential that the taking be for the sake of gain, e.g. to take a man's motor-car and run it into a deep riv. merely to spite him is L. if done with intent permanently to deprive the owner of his property. L. by finding is the offence of appropriating goods, the true owner of which may be found by inquiry. If, at the time of appropriation, the finder really believes that the owner cannot be found, it is not L. (Baron Parke in *R. v. Thurborn*, Warburton's *Leading Cases*, 157).

Larch, common name given to species of *Larix*, a genus of coniferous plants found in N. parts of Europe, Asia, and America. The plants are hardy trees, much resembling species of *Cedrus* in habit, but they are not evergreen, and the cones ripen in one year. The wood is hard and tough, the leaves are bright green in colour and linear in shape, and the flowers are monocious. *L. Europæa*, the common L., grows to a height of 100 ft., and is valued for its wood, its bark used in tanning, and for the turpentine which it yields. *L. pendula*, the black L., is common in America.

Larcom, Lucy (1826-93), Amer. poet, b. at Beverly Farm, Massachusetts. From 1866 to 1874 she ed. *Our Young Folks*. Her poems include *Riverside Poems* (1876) and *Hillside and Seaside in Poetry* (1877). See her autobiography, *A New England Girlhood* (1889).

Lard, fat of the hog melted down and strained, the best quality being prepared from the 'leaf' or fat of the bowel and kidneys. L. should contain about 60 per cent of olein and 40 per cent of palmitin and stearin. Adulteration is frequently resorted to in the manu. of this commodity, the stearin of beef or mutton being used. The best quality of L. is used for making oleomargarine, whilst the inferior sort is used for making candles. An artificial L. is made by the action of hydrogen upon cotton-seed oil in the presence of nickel shavings, which act as a catalyst (q.v.); though wholesome, it lacks the vitamins of the animal product.

Lardner, Dionysius (1793-1859), Irish scientific writer, b. in Dublin. Entered Trinity College, Dublin, and took orders, but preferred to write contributions to the *Edinburgh Review* and various encyclopædias. In 1827 he became prof. of natural philosophy and astronomy in the univ. of London (afterwards Univ. College), and in 1829 began his great work, *The Cabinet Cyclopædia*, which was finished in 133 vols. twenty years later.

Lardner, Nathaniel (1684-1768), Eng. divine, ecclesiastically a Presbyterian, but theologically a Unitarian. He wrote *Credibility of the Gospel History* (1727-57) and *Jewish and Heathen Testimonies in favour of Christianity* (1764-67).

Lareau, Edmond (1848-90), Canadian politician of Fr. extraction. Called to the Bar in 1870, and was appointed six years later prof. of law in McGill Univ. In 1886 he was elected to the prov.

legislature. He wrote *Histoire of Canadian Law* (1888) as well as *Mélanges historiques et littéraires* (1877).

Laredo: 1. City of Texas, U.S.A., and the co. seat of Webb co., 150 m. S.E.W. of San Antonio. It is a garrison tn., and a port of entry on the Rio Grande. It is a centre for trade between Mexico and U.S.A., and its industries include antimony smelting and car works, cattle raising, and fruit growing, it is especially famous for early grapes and Bermuda onions. In 1936 was opened the new highway (770 m.) between Mexico city and L., on the Amer. border. Pop. 35,000. 2. Fortified seaport tn. of Spain, in the prov. of Santander, 20 m. S.E. of the cap. Santander, on the coach road to Bilbao. Rope and sails are manufactured, and fish preservation is carried on. Pop. 6000.

Lares, The, Rom. tutelary deities, originally gods of cultivated fields, worshipped by each household. From early times a distinction existed between public and private L., the latter being worshipped by families alone as representing the spirits of departed ancestors. The public L. belonged to the state religion, and their influence included the entire surrounding dist. of the tn. and country in which they were situated. They had a special annual festival with public games. In the later period of the republic they are confounded with the Penates, though in earlier times there was a marked distinction between the two. The name seems to be identical with the Etruscan *lar* (q.v.), king, lord. See G. Wissowa, *Religion und Kultus der Römer*, 1902.

Largentière: 1 Tn. in the dept. of Hautes Alpes, France. Pop. 1000. 2 Tn. and dept. in Ardèche, France. The tn. is noted for its ancient church and castle, and also for its fruits, tanneries, and silk factories. There are lead mines in the neighbourhood. Pop. tn. 2500, dept. 95,000. 3. Glacier of Mont Blanc.

Largo, part and market of fisherie, Scotland, situated on Largo Bay, 1 m. from Leven. The tn. consists of two vills, Upper Largo, containing the principal buildings, and Lower Largo a summer resort and fishing vill. with a small harbour. Alexander Selkirk ('Robinson Crusoe') was b. here. Pop. of par. 3000.

Largo and Larghetto, It term in music used as a direction of tempo. It is generally understood to denote a broad style as well as a slow pace. Larghetto is the dimin. of largo, meaning less slow than the latter.

Largs, par. and watering-place of N. Ayrshire, Scotland, situated on the firth of Clyde, 12 m. S.S.W. of Greenock. There is a small harbour, which affords a good anchorage for yachts. Pop. 9700.

Lari, market tn. of Italy, in the prov. of Pisa, 11 m. N.E. of Leghorn. Pop. 8600.

Laricio, see PINE.

Laridae, see GULL.

Larino, tn. of Italy in the prov. of Campobasso, on the R. Biferno. It suffered destruction by an earthquake in 1300. It is an episcopal see. Pop. 7000.

La Rioja: 1. Andine prov. of Argentina,

situated between Cordoba, San Juan, and Catamarca. In the N.W. is the Sierra Famatina (20,000 ft.). Gold, copper, silver, and iron are found, and the soil is fertile in vines, maize, cotton, etc. Area 37,839 sq. m. Pop. (1928 estimate) 94,793. 2. (cap. of above prov., at the side of the Sierra Velasco at an altitude of 1670 ft. Pop. 3000.

Larissa, chief tn. of Thessaly in ancient Greece. It is now the cap. of the prov. of L. (pop. 312,200), and stands on the r. h. of the R. Salambria (ancient Peneus), 35 m. N.W. of Volo. L. was under Turkish authority until 1881, when it was ceded to the Gks. There are still evidences of its Turkish occupation in the minarets, empty mosques, and Muslim burying grounds. L. lies not far from the Homerio Argissa, and was a name applied to other Pelasgian cities; it signified a fort. tn. or burgh. Bombed by the Gks. on March 2, 1941, and overrun by the Gers. on April 20. Pop. prov. 312,000; tn. 23,000.



LARK

Laristan, maritime prov. in Persia, on the Persian Gulf. Its cap. is Lar. It is for the most part desert land. Salt and alk form the chief products. Area (estimated) 20,000 sq. m.

La Rive, Auguste de (1801-73), Swiss chemist, b. at Geneva. He became prof. of natural philosophy in his native city in 1823, and made a special study of electricity. His chief work is *Traité de l'électricité théorique et appliquée* (3 vols.), 1854-58.

Larivey, Pierre (c. 1640-1813), Fr. dramatist, descended from the Giunta, the famous Florentine and Venetian printers. He became canon of the church of St. Etienne. His comedies were rather adaptations from It. plays than works of creative art. His prin. work, *Comédies françaises*, appeared in 1570.

Lark, popular name given to the species of Alaudidae, a family of passerine birds inhabiting the Indian, Palearctic, and Ethiopian regions, *Otocorys* being the only

Amor. genus and *Mirafra* the only Australian one. *Aldaia arensis*, the familiar Brit. skylark, nests in a hollow in the ground, usually among grass or cereals. Its rapid, pleasing trill is generally uttered while the bird is soaring, and occasionally it emits a plaintive call. *A. arborea*, the woodlark, *A. cristata*, the crested lark, and *A. alpestris*, the shore lark, belong to the same family.

Larkhall, tn. of Lanarkshire, Scotland, 3 m. S.E. of Hamilton, with collieries, bleach-works, and a silk factory. Pop. 14,000.

Larkspur, see DELPHINIUM.

Larmor, Sir Joseph (1857-1942), Brit. physicist, b. in co. Antrim, N. Ireland, and educated at the Royal Belfast Academical Institution, Queen's College, Belfast (graduating with the highest honours), and St. John's College, Cambridge, where he was senior wrangler. He was prof. of natural philosophy, Queen's College, Galway, and later at St. John's, Cambridge. His *Ether and Matter*, pub. in 1900, on electromagnetic theory is a systematic working out of the idea, then gaining favour, that matter is essentially an electrical structure; while Clerk-Maxwell's theory, which postulates electricity as a continuous fluid, becomes, with L., an electron theory, postulating electricity as atomic in character like matter. L. proved that, if matter be electrically constituted, any moving object must minutely contract in the direction of its line of motion and this phenomena was the foundation of Einstein's theory of relativity (formulated in 1905). Among other contributions of L. were his formula for radiation of energy by an accelerated electron, and his theory of the precession of electron orbits in a magnetic field. L. also wrote notable papers on hydrodynamics and waves. He was elected to Parliament for Cambridge Univ. as a Unionist from 1911 to 1922. Secretary of the Royal Society, 1901-12. See also his vols. of scientific memoirs, 1927-29.

Larnaca, or **Larnaka**, prin. port of the is. of Cyprus, in the Mediterranean Sea. There is a pier 450 ft. in length, and excellent anchorage is afforded. Cable lines connect L. with Alexandria in Egypt, and also with Latakia in Syria. The tn. is the anct. Citium, and numerous objects of antiquarian interest have been found. Pop. 14,700.

Larne, par. seaport and mrkt. tn. of Antrim, N. Ireland. The port has become one of the chief passenger ports of the country, and is 1½ m. S. of the tn. of Larne. The market-place covers over an acre of ground, and there are linen and woollen manufs.; trade is also carried on in lime, iron-ore, flour, dairy produce, and linen. The tn. possesses a marine zoological station. Pop. 11,000.

La Rochelecauld, François, Duc de (1613-80), most accomplished of the maxim and memoir writers of France, b. at Paris. Bore the title of Prince de Marsillac. He joined the army at an early age, and soon began to make a figure in public life, becoming engaged in intrigues against Richelieu and in the plots

of the Fronde. He was severely wounded at the siege of Paris and again at the night at the Port Saint-Antoine in 1652. He then retired to the country for a while, but returned to court before the death of Mazarin and became a prominent leader of the literary *salon* of Mme de Sablé. In 1665 he pub. his famous *Maximes* anonymously and under the title of *Reflexions, ou sentences et maximes morales*. They passed through five eds. in the author's lifetime, and are as remarkable for their literary excellence as for their acuteness of thought. His *Memoires* were pub. in 1817, and are among the best of a time rich in writings of this kind. His *Lettres* are also of great historic and social interest. La R.'s *Œuvres complètes*, ed. by Gilbert and Gourdaill, appeared in 1868-1884. There are numerous eds. of the *Maximes*, the finest being the *Édition des bibliophiles*, 1870 (Eng. version by G. H. Powell, 1903). See lives by J. Bourdeau, 1893, and J. Hémon.

La Rochele, see ROCHELLE, LA.
Larousse, Pierre Athanase (1817-75), Fr. grammarian and lexicographer, b. at Toucy, Yonne. His greatest work was the *Grand Dictionnaire universel du XIX^e siècle*, 15 vols. (1866-76), supplemented 1877 and 1887. From 1895 to 1907 appeared the *Nouveau Larousse illustré*, editor C. Augé. The publishing house which he founded has continued to issue dictionaries and encyclopedias.

Larsen, Karl (1860-1931), Dan. prof., poet, and novelist; b. July 28, at Rendsborg; son of a lieutenant of engineers. He studied law and political science at Copenhagen and Berlin; Ph.D. Travelled, 1883-88. Editor of *Juleorser* (1900-15); *Turistræde* (1911-21); president, Dan. Authors' Society, 1902-8. His poems, dealing with tn. life, are highly esteemed; his novels include *Cirkler* (1893) and *Doktor Is* (1896).

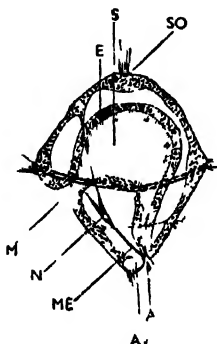
Larsen, Kay (b. 1879), Dan. author; son of P. H. L., linen-draper. A member of the council of Dan. Authors' Society, 1915-19, and its secretary 1916-19. He writes on Dan. voyages and colonisation, and has made many 'study voyages' under the auspices of the Ministry of Marine. Works include *Glimt* (1904); *De Danskostindiske Kolonier Historie* (1907-8); *De Danske i Guinea* (1918); *Kroniker fra Dansk Guinea* (1924); and *Dansk Vestindien, 1666-1917* (1928).

Larva (Lat., a ghost, a mask), name applied, first by Linnaeus, to the young form of any animal which has left the egg and which at that stage does not resemble the parent. It is given more particularly to insects, but refers also to tadpoles of frogs, nauplii and zoeae of crustaceans, the young of chelicerates, the ammocoetes of the lamprey, the trochophore of annelids, etc. The larvae of Orthoptera and Hemiptera bear a strong resemblance to the imago, or perfect insect, except in the absence of wings, and the metamorphosis is slight; such forms are best described as *nymphs*. Lepidoptera in the larval form possess a head, legs, and prolegs and are popularly known as caterpillars; the larvae of Coleoptera, which have heads

and may or may not have legs, are called grubs, and those of Diptera, which are legless and frequently without a head, are called maggots. Occasionally larvae are able to produce a phenomenon known as *neoteny* or *pedogenesis*, the best known example is the Mexican axolotl

of foreign bodies can be determined and suitable treatment decided upon. The instrument was first used by Manuel Garcia to examine the state of the larynx in singing, and was adapted to medical purposes by Dr Czermak of Pest.

Larynx, organ of voice situated in the



A CROCODILIAN LARVA (MUSEUM OF NATURAL HISTORY)

M, mouth; A, anus; S, stomach; N, nostril; SO, supra-ocular; E, eye; ME, maxillary; A, anal vesicle.



THE NAUTILUS LARVA OF A CRUSTACEA

A, first pair of appendages; P, peduncle; C, ciliated band; and the pair of eyes, these are the two main parts.

Larvik, see **LARVIX**.

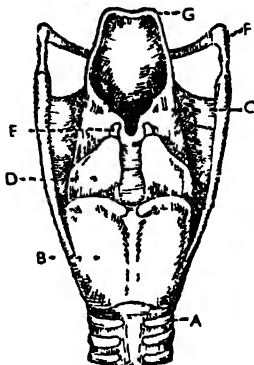
Laryngismus stridulus, spasmodic aff. of the larynx that occurs in young children. It may attack tickly or nervous children but is especially associated with adenoids. It is characterised by a sudden arrest of respiration, the child becomes blue in the face owing to imminent asphyxiation and breathing is resumed by long crowing inspirations. The cause of these attacks is somewhat obscure, it consists of a reflex spasm of the glottis, and may or may not be accompanied by a preliminary catarrh. The attacks are likely to be recurrent, or may cease without any obvious reason. Treatment during an attack is usually impracticable, as the termination whether fatal or the reverse is very rapid. After recovery the patient should be examined for adenoids, and these should be removed if present.

Laryngitis, see under **LARYNX** in horses; see under **HOUSE** (DISEASES).

Laryngoscope, instrument by which the condition of the larynx may be observed. It consists of a small mirror attached to a long handle at an angle of about 120°. The instrument is first warmed to prevent obscuration by the condensation of moisture, and then introduced into the throat with its back against the soft palate and uvula. At the same time a strong light is directed against the mirror from a lamp placed on the shoulder or forehead of the observer, so that the light is reflected towards the larynx and back again to the mirror. By this means the extent of laryngeal inflammation or the presence

upper and front part of the neck. It consists of a framework or box of cartilages with their ligaments and muscles and is in the direct course of the current of air from lungs to mouth and vice versa. It opens above into the cavity of the pharynx at the base of the tongue and connects that cavity with the trachea or windpipe. The cartilages are movable with regard to each other and this motion, together with differences in the tension of the elastic ligaments, causes those modifications in the resistance to the air current which give rise to the phenomena of voice. The cartilages comprising the framework of the L. are the thyroid, the cricoid, the epiglottis, the two arytenoids, the two cornicula laryngis, and the two cuneiform cartilages. The thyroid is the largest, and consists of two lateral plates united in front to form a ridge causing the projection known as 'Adam's apple'. Each of the lateral plates has projecting pieces at its upper and lower corners. The cricoid is a ring situated below the thyroid to which it is connected in front by thick fibrous tissue, while it is joined to the trachea below by fibrous membrane. The arytenoids are two smaller cartilages of great mobility resting upon articular surfaces in the posterior part of the cricoid and bound to it by fine elastic ligaments. The epiglottis is a thin cartilage with many perforations, which serves as a valve or covering for the laryngeal cavity, during respiration it is raised so as to admit of the passage of air, but the action of swallowing brings it down so as to enable the food to pass through the gullet behind

The most important ligaments are those known as the vocal cords. The true vocal cords, or inferior thyro arytenoid ligaments consist of fine elastic fibres joined behind to the base of the arytenoid cartilages and in front to the middle of the angle between the wings of the thyroid cartilage. They divide the cavity of the L into an upper and lower part which communicate with each other by the lottis a chink or aperture between the vocal cords. The size of the glottis is an important factor in voice production. In the adult male it measures about 23 mm from front to



THE LARYNX (SEEN FROM BEHIND)

A trachea B thyroid cartilage
C arytenoid cartilage D arytenoid
cartilage E larynx
F hyoid bone G epiglottis

back, and from 6 to 12 mm transversely. In females and males before puberty the length of the aperture is about 17 mm and its width about 4 mm. The muscles of the L may be divided into two groups, the extrinsic muscles which move the L as a whole and the intrinsic muscles which move the cartilages with respect to one another. It is by certain of these latter muscles that the tension of the vocal cords is regulated and the size and shape of the glottis altered in the production of different sounds. The voice mechanism therefore consists of the modifying processes in the course of the blast of air from the lungs. The pressure of the air passing upwards through the trachea distends the margins of the elastic membranes constituting the vocal cords; the aperture is therefore opened momentarily while the air passes through, and thus a series of vibrations is produced. The pitch of the sound is determined by the number of vibrations in a second, while the intensity is determined by the amplitude of those vibrations. Inflammation of the L is known as laryngitis. It may be caused by excessive use of the voice, irritating vapours, or dust, chill, or by microbic infection. The symptoms are pain and difficulty in phonation, and swelling of

parts of the L. The treatment includes rest for the voice and antiseptic throat washes. Laryngitis is always worthy of attention as excessive inflammation causes great difficulty in respiration not unaccompanied by danger, while a succession of attacks is apt to lead to a chronic form in which the voice is in seriously affected more or less permanently. The L may also be the site of various tumours including cancer. Hoarseness is an important symptom and should not be neglected if it persists for more than a few weeks. See (ROUT 110481) 1193 LARYNGISMLYSTRIDULUS, LARYNGO SCOLF

Larzac Breed, see SHILL

La Salle, Jean Baptiste de la (1633-1719) French canon of Rheims and founder of the Brothers of the Christian Schools. In 1684 he resigned his canonry and with twelve others took a vow to devote himself for life to the teaching of the poor being in fact the forerunner of modern primary education. The headquarters of the institution since 1700 has been at Saint Yvon (Rouen). La S. was canonised by Leo XIII (1900). See life by Rivet (Paris) 1858 and W. J. Battersby, *De La Salle Saint and Pioneer in Education* 1915.

La Salle, René Robert Cavelier, Sieur de (1633-87) one of the greatest of the explorers and adventurers who opened up paths in the trackless Amer wilderness was b in Rouen France. At the age of twenty three he went to Montreal where he secured a grant of land on the St Lawrence R. In 1670 he began the first of his explorations through the country in the vicinity of the St. Lawrence and Ontario. He then went further S and was at one time supposed to have discovered and explored the course of the Ohio R. It is doubtful he ever went on this. A close friend of Frontenac, governor of Canada, he made six trips back to France in the former's interest. His last trip brought for himself the grant of a monopoly of the trade in the Mississippi valley. La S. thereupon worked his way partly overland and partly by portage on some of the lakes and explored the Mississippi down to its mouth. He took possession of this vast area in the name of his sovereign King Louis and named it Louisiana in his honour. He attempted to consulate for the king both the ter of Louisiana and that other ter vaguely known as Illinois and was the first to build a post on the site of what is now the great city of Chicago. Frontenac being succeeded by a new governor who was not friendly to La S. the latter once more went to Paris and secured from the king the title of governor of Louisiana and Illinois. He set forth with an expedition which was a failure from the start. The commander of the fleet refused to obey his orders. La S. lost his way to the Mississippi, landing instead in Texas. With a miserable remnant of his expedition he sought to find his way back to Canada, but was treacherously assassinated by his own men on March 20. See L. V. Jacks, *La Salle*, 1931.

La Salle, city of Illinois, U.S.A., 84 m. W.S.W. of Chicago, and the terminus of the Illinois and Michigan Canal. It has extensive manufactories of clocks, Portland cement, and zinc, and the surrounding country abounds in coal. It has a large shipping trade, and is the centre of a farming dist. Pop. 12,800.

La Sallette, see **SALETTE-FALLIVAUX**, LA.

Lascar, name adopted in England into the Merchant Shipping Acts, signifying a soldier or camp-follower. Originally used by the Portuguese for an inferior class of men in military service, it is now generally applied to Indian sailors serving on Brit. ships. They are generally Muslims.

Lascaris, Andreas Johannes (c. 1445-c. 1535), surnamed **Rhynadaenus**, Gk. scholar of noble birth. He was a fugitive to the court of Italy in 1454, and was patronised by Lorenzo de' Medici. Later he went to Paris, where he taught Gk., and in 1508 Leo X. placed him at the head of a Gk. college in Rome. Remembered as editor of *The Greek Anthology*, commentaries on Sophocles, etc. See A. F. Villenain, *Lascaris*, 182.

Lascaris, Constantine (c. 1434-1501), Gk. grammarian, and a pioneer of Gk. studies in the W. Fled to Italy in 1453, after the capture of Constantinople by the Turks, and taught at Milan, Rome, Naples, and Messina. He is best known by his celebrated Gk. grammar (1476), the first work printed in Gk. characters. See A. F. Villenain, *Lascaris, ou les Grecs du XVe siècle*, 1825, and J. Symonds, *Renaissance*, 1877.

Las Casas, Bartolomé de (1471-1566), Sp. missionary, b. at Seville, noted for his zeal on behalf of the oppressed Indians. Studied at the univ. of Salamanca, and in 1502 went to Hispaniola, where he became a planter and preached the gospel to the natives. In 1516 he returned to Spain to lay before the king the cause of enslaved Indians, but his zeal and plain speaking stirred up powerful enemies and his efforts were unavailing. Notwithstanding he repeatedly crossed the ocean to plead their cause, and addressed sev. letters and treatises on the subject to Charles V. In 1544 he accepted the bishopric of Chiapa, Mexico. Three years later he returned to Spain and passed the remainder of his life in the Dominican college at Valladolid. His works include an unfinished *History of the Indies*, an important source of information on Sp. discoveries and conquests. See lives by A. Helps, 1868; F. A. MacNutt, 1909; A. Barros-Arma, 1924; and R. Schneider, 1938.

Las Casas, Ciudad de, see **SAN CRISTOBAL**.
Las Cases, Emmanuel Augustine Dieudonné Marin Joseph (1766-1842), Fr. officer, and historian, b. near Revel, Haute-Garonne, the companion of Napoleon at St. Helena. He served in Condé's army in 1792, and then spent some time in England, and fought for the royal cause at Quiberon (1795). He returned to France at Napoleon's accession, and worked at his famous *Atlas historique*

(1802), pub. under the pseudonym *Lesage*. After Waterloo he shared Napoleon's exile, and pub. the ex-emperor's memoirs under the title of *Memoirs of St. Helena* (1828).

Lascaux Caves, near Montignac-sur-Vézère, in the Dordogne, France, in which in 1940 were discovered rock paintings of the palaeolithic and other periods, preserved under a glaze of stalactite formation. Since many are painted over former works, it is possible to trace the development of style, particularly in the treatment of horns, antlers, and hooves over a period of more than a thousand years. There is much artistic quality in the later paintings, which feature bulls, bison, stags, and horses, along with symbols and signs which may be tribal marks or methods of sympathetic hunting magic. The colours were probably blown on to the surface by a tube. See also under **DORDOGNE**. See F. Windels, *The Lascaux Cave Paintings*, 1948; also A. H. Brodrick, *The Caves of Lascaux*, 1948, and *Lascaux: a Commentary*, 1949.

Lascelles, family of Yorkshire, England, earls of Harewood since 1821, when Edward L. became the first earl, having been made Baron Harewood in 1796. The chief seat is at Harewood House, near Leeds. Henry George Charles L., the sixth earl (1882-1947), succeeded, in 1929; in 1916 he inherited from his great-uncle, the marquess of Chauliardo, an estate of £2,500,000. As Viscount L. (the title of the eldest son) he married Princess Mary (q.v.), daughter of George V. He was personal A.D.C. to King George VI., lord lieutenant of the W. Riding from 1927, K.G. (1922), G.C.V.O. (1931), and grand master of the united freemasons' lodge of England (1943). George Henry Hubert, the seventh earl, was born in 1923 and succeeded in 1947. Serving in the Second World War, he was a prisoner during 1944-45, and then became A.D.C. to the governor-general of Canada, the earl of Athlone.

Lascelles, Sir Frank Cavendish (1841-1920), Brit. diplomatist, son of Rt. Hon. W. S. S. Lascelles and grandson of second earl of Harewood. Entering the diplomatic service in 1861, he was appointed consul-general in Bulgaria, 1879. He was appointed minister to Rumania in 1887, minister to Persia in 1891, ambas. to Russia, 1894, and to Germany, 1895, a post he held for twelve years. K.O.M.G., 1886; G.C.M.G., and P.C., 1892.

Lasco, or **Laski, Johannes** (1499-1560), Polish reformer, b. at Lask, nephew of Archbishop Laski (1456-1531). Studying abroad, he became imbued with the doctrines of Zwingli and Erasmus. Nevertheless he was made bishop of Veszprem, but soon fell into disfavour with the archbishop upon discovery of his secret marriage. A refugee in England, he became a friend of Cranmer and helped compile the Prayer Book and Articles of the Church of England. He tried hard to win Poland over to the Protestant faith, superintending the trans. of the Bible into Polish. He wrote *History of the Cruel Persecution of the Church*

of God. See study by K. Volker in *Kirchengeschichte Polens*, 1930.

Laser, or *Asaduleis*, gum-resin obtained from the umbelliferous plant *Thrasia gargarica*, common to N. Africa, and was esteemed by the ancients as a drug.

La Serena, see COQUIMBO.

Lashio, important tn. of Burma, connected by rail with Rangoon, situated about 50 m. from the Chinese frontier. Being the terminus of the Burma road (q.v.), it was a vital strategic centre during the Jap. invasion of Burma in the Second World War. It was captured by the Jap. on April 28, 1942. It was bombed frequently by the Amer. Air Force later in the same year. See further under BURMA, SECOND WORLD WAR, CAMPAIGNS IN.

Lashkar, see GWALIOR.

Lasker, Eduard (1829-84), Prussian Liberal politician, b. at Posen of Jewish descent; educated at the univs. of Breslau and Berlin. He lived for three years in England. In 1865 entered the gov. service and was elected to the Lower House. Two years later he entered the Ger. Reichstag and headed the secessionists from the National Liberal party in 1880. L. took an active part in the civil consolidation of the Ger. Empire. He pub., among other works, *Zur Verfassungsgeschichte Preussens* (1874).

Lasker, Emanuel (1868-1941), Ger. chess player, b. at Berlinchen. Studied at the univs. of Berlin, Göttingen, and Heidelberg, chiefly mathematics; became a doctor of mathematics and by profession was a univ. lecturer; but most of his career was taken up by chess. One of the greatest of all players, his active career was probably unique, and from about 1889 until 1914 his pre-eminence was unchallenged. He won his first tournament at the age of twenty-one in Berlin. Both in match play and in tournaments for the ensuing twenty-five years he was invincible—winning decisive victories over such players as Blackburne, Mieses, Bird, Showalter, and Janowski. He won the world championship title by defeating Steinitz in 1894 by 10 games to 5 and defended his title again in 1897 by defeating Steinitz by 10 games to 2. Subsequently he defeated Marshall (U.S.A.) and Tarrasch, but drew with Schlechter in 1910. He met Capablanca (q.v.) in 1920 after protracted negotiations and lost by 4 games to nil, 10 games being drawn. His opponent's technique, coupled with the heat in Havana had something to do with his defeat, for his powers were undiminished, and in 1924 at the New York tournament he won first prize with the remarkable score of 16 out of 20, 1½ points ahead of Capablanca and 4 points ahead of Alekhine. The next year, in Russia, he was second to Bogoljubov and again ahead of his great rival Capablanca. In 1935, again in Moscow, he was unbeaten, being third with 12½, half a point behind Botvinnik and Flohr. A Jew, he left Germany owing to the Nazi persecutions and became a chess prof. in Moscow, but on the fall of his friend, Krylenko (q.v.), he went to the

U.S.A. Pub. works on chess, science, and philosophy.

Lashkari-Bazar, dist. of Afghanistan, notable for the discovery in 1919 by the director of antiquities, Daniel Schlumberger, of the extensive ruins of a palace of the sultans of Ghazni of the tenth and eleventh centuries. The palace measures 164 yds. by 92 yds. and is surrounded by fortifications. Fragments of the decoration by stucco and painting have survived. There are other extensive ruins in the neighbourhood. What has already been excavated shows that this was the palace of Mahmud of Ghazni, the Moslem invader of India.

Laski, Harold Joseph (b. 1893), Eng. political economist. B. at Manchester, he was educated at its grammar school and at New College, Oxford. From 1914 to 1916 he lectured in hist. at McGill Univ., Montreal, at Harvard from 1916 to 1920, and at Dublin in 1936. Connected with the London School of Economics from 1920, he became prof. of political science at London Univ. in 1926. He became a member of the executive of the Fabian Society in 1922 and of the Labour party in 1936. He played a major part in his party's success in the general election of 1945, being chairman of the party from 1945 to 1946. His keen insight into the problems of political thought and the progressive nature of his viewpoint have placed him in the first rank of writers on his subject. His works include *The Problem of Sovereignty* (1917), *Authority in the Modern State* (1919), *Political Thought from Locke to Bentham* (1920), *Letters of Burke* (ed.) (1922), *The Defence of Liberty against Tyrants* (ed.) (1924), *Autobiography of J. S. Mill* (ed.) (1924), *A Grammar of Politics* (1925), *Communism* (1927), *The Dangers of Obedience* (1930), *An Introduction to Politics* (1931), *Studies in Law and Politics* (1932), *The Crisis and the Constitution* (1932), *Democracy in Crisis* (1933), *The State in Theory and Practice* (1935), *The Rise of European Liberalism* (1936), *Parliamentary Government in England* (1948), *The American Presidency* (1940), *Reflections on the Revolution of Our Time* (1943), *Faith, Reason, Civilisation* (1944), *Liberty in the Modern State* (new ed.) (1948), *The Communist Manifesto: Socialist Landmark* (1949), *The American Democracy* (1948); and many articles to the *Harvard Law Review*, the *Nation*, *Manchester Guardian*, etc.

Las Palmas, cap. of Gran Canaria Is. and the cap. of the Sp. prov. of the same name, is situated on the N.E. coast and is distinguished for its beautiful scenery. It possesses a theatre, cathedral, and various hospitals and educational institutions. It owns a large shipbuilding trade, and there are many steamboat excursions. The climate is delightful. Exports fruit and vegetables and wine. Pop.: tn. 84,000; prov. 375,700.

Lassa, see LIAHA.

Lassalle, Ferdinand (1825-64), Ger. Socialist, b. at Breslau of Jewish extraction and one of the founders of the Social Democratic party in Germany. Studied philosophy at Breslau and Berlin Univs.

His philosophical work on Heraclitus the Obscure was pub. in 1838. In the same year appeared his remarkable pamphlet *The Italian War and the Mission of Prussia*, in which he showed himself an ardent patriot and fanatical advocate of Ger. unity. In 1861 he pub. *Das System der erworbenen Rechte*, an able legal work. L. was an ardent disciple of Marx, though there is a vast difference in their methods and ideas. As a political movement modern socialism owes much to him. He met his death in a duel when only thirty-nine years of age. His unhappy love-story with Helene von Dönniges is the theme of Meredith's *Tragic Comedians*.

began his musical education at Brussels at a very early age, and in 1851 won the Prix de Rome. Through the good services of Liszt, his opera, *Le Roi Edgard*, was produced at Weimar in 1857, and in 1878, on the retirement of Liszt, L. was made kapellmeister to the court, retiring in his turn in 1895. Among his chief works are the operas *Landgraf Ludwigs Brautfahrt* (1857); *Frauenlob* (1861); *Le Captif* (1868), and he also wrote two symphonies, music for Sophocles's *Oedipus* and Goethe's *Faust* (1876), and a large number of songs—*All Souls' Day* being one of the best known.

Lassigny, tn. in the dept. of Oise.



NATIVE ROCK HOUSES AT LAS PALMAS

(Canadian Pacific)

where L. figures as Dr. Alvan. See W. H. Dawson, *German Socialism and Lassalle*, 1888; P. Lindau (ed.), *Lassalle's Diary*, 1891, and D. Footman, *The Primrose Path*, 1916, also life by G. Brandes (Eng. trans.), 1941.

Lassen, Christian (1800-76), Norwegian orientalist, b. at Bergen. With Eugène Burnouf he deciphered many Pali MSS., the result of their combined labours being pub. in an *Essay on the Pali or Sacred Language from the Peninsula beyond the Ganges* (1826). *Ramayana* (1829-38) and the *Hitopadesa* (1829-31) were pub. in conjunction with Schlegel. L.'s numerous and valuable works relate to a variety of oriental languages and ant. hist., the most important being *Persian Cuneiforms* (1836); *Prakrit* (1837), *Indian Civilization* (1847-61), etc.

Lassen, Eduard (1830-1904), Dan. musical composer, b. at Copenhagen. He

Franc, 10 m. W. of Novon. The scene of a battle in the First World War begun by the Fr. under Gen. Humbert on Aug. 9 1914, and ended on the 16th, when the Gers fell back.

Lassuthion, prefecture of Greece, in the E. of Crete; cap. Hagios Nicholas. Pop. 75,900.

Lasso, plaited rope of raw hide used by the Amer. cowboys and S. Amer. gauchos for catching wild cattle. It measures 60 to 100 ft. long, and a noose 8 ft. wide is made at one end to entrap the horns of the animal.

Lassus, Orlando de (c. 1532-94), Flemish composer, b. at Mon. After travels in Italy and England he entered the service of the duke of Bavaria, becoming kapellmeister in 1563. His works include masses, motets, *suave cantiones*, psalms, madrigals, It. canzoni, Fr. chansons, and Ger. songs for sev. voices. He

contributed much to the development of modern harmonised music, ranking next after Palestine (*q.v.*)

Lastra, com., Italy, 3 m W of Florence. It is the centre of a large straw hat industry. Pop 12 000

Last Supper, memorial meal celebrated by Jesus on the eve of His betrayal at which He blessed the bread and wine offered thanks to God and commanded the perpetual repetition of the act in memory of Himself. The Christian sacrament or ordinance variously known as the mass, eucharist or communion service is the renewal of the sacramental meal.

Las Vegas 1 tn of New Mexico U.S.A. in the co. of San Miguel 44 m E by S of Santa Fé. There is a large metal industry, and the tn is noted for its hot springs. It ships raw wool and is an important agricultural and lumber tn. The L.V. has railroad shops, the Montezuma Baptist College, and the Wormal Univ. Pop 8400. 2 Cap. of Clark co., Nevada, U.S.A., 35.5 m E of Los Angeles and 30 m W of the Boulder Dam (*q.v.*) The surrounding region produces cattle, gypsum, borax, silver and gold. There is an airport. Pop 8400.

Las Villas, prov. of Cuba. Area 5264 sq. m. Pop 938 581.

László de Lombos, Philip Alexius (1869-1938), Hungarian painter b. at Budapest, studied at Munich and Paris. At first a genre painter he subsequently became a portrait painter. Shortly after the outbreak of war in 1914 he became a naturalised Brit subject. He was a popular society painter and painted the portraits of the members of the British royal family. See O. Rutter *Portrait of a Painter*, 1939.

Latacunga, cap. of Leon prov. in Ecuador. This tn mostly constructed of dark coloured pumice stone has been the scene of many mud eruptions from the volcano Cotopaxi. Pop 26 000.

Latakia (Turkish *Latakia*) or **Lattakieh**, seaport tn of Syria 75 m from Tripoli. Tobacco stores, silk and cotton form the exports. The tobacco which takes its name from the tn is much used in pipe mixtures. It occupies the site of Laodicea and excavations have revealed remains of the earlier city. Pop 22 000.

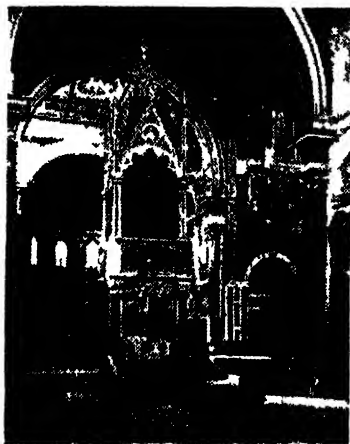
Lateen-sail (Fr. *voile latine*) lat. sail so called as the chief form of rig in the Mediterranean) triangular sail suspended to the mast by a long yard, and rigged so that the upper end is raised in the air and the lower brought down to form the tack. A vessel rigged with a L. sail and yard is known as a lateener. It is still the typical sail of the felucca of the Mediterranean and the dhow of the Arabian Sea.

Late Latin Language, see under **LATIN LANGUAGE AND LITERATURE**.

La Tène, early Iron Age settlement at the E end of Lake Neuchâtel, Switzerland. From this type-station the name was given to a culture which in Britain is dated c. 550-75 B.C. The type of ornaments and weapons discovered at L.T. is found across Europe from Hungary to

Britain, the scroll-work marks a period of Celtic art which later achieved its highest standard in pre-Roman Britain. See also **IRON AGE**. See P. Vouga, *La Tène monographie de la station*, 1923.

Latent Heat, heat that is evolved or absorbed by unit mass of a substance during a change of physical state (*e.g.* solid \rightleftharpoons liquid, liquid \rightleftharpoons gas). The application of heat ordinarily raises the temp. of a body but when a change of state is imminent it is found that heat is applied without any corresponding change in the thermometric reading until the change is complete. On the old assumption that heat was an imponderable substance introduced into the body heated such heat was called 'latent', that is, it concealed itself from the thermometer. The principle has important applications for instance water on evaporating abstracts heat from surrounding bodies, hence the danger of chill when wet clothes are allowed to dry on the body. Conversely heat is given out when a vapour condenses or when a liquid solidifies. The L.H. of fusion of ice is about 80 calories per gm. that is, it takes eighty times the amount of heat required to raise the temp. of water 1°C. to melt the same weight of ice. The L.H. of vaporisation of water is about 536 times per gm.



W. H. Mansell

VATICAN CHURCH OF ST JOHN

Lateran Church of St John, most important of the Rom. churches in so far as it (and not St Peter's) is the pope's cathedral as bishop of Rome. This church was originally dedicated to the Saviour and occupied the site of what was once a magnificent palace belonging to Plautius Lateranus. It was afterwards rebuilt in the middle of the twelfth century by Lucius II, and was dedicated to St John the Baptist. It was completely destroyed

by Pope Sixtus VI. in 1586 and reconstructed, together with the adjoining Lateran Palace. Five acrimonial councils were held here.

Lateran Treaty, bilateral agreement signed at the Lateran Palace, Rome, on Feb. 11, 1929, by Cardinal Gasparri on behalf of the pope, and Mussolini as plenipotentiary for United Italy. The latter recognised the former's sovereign rights over a newly created Vatican City State, extraterritoriality of the Apostolic Palace and various other buildings in Central Italy, while the Holy See acquiesced in the occupation by the House of Savoy of the rest of the former papal states. A concordat regulating relations between Church and State in United Italy was organically incorporated in the treaty. A financial convention, by which reparation was made for losses since 1870, was also signed. In virtue of the L. T., the Holy See issues a currency legal in Italy, has its own postal system and radio broadcasting station, and enjoys the right to direct communication with other states, even in time of war, while cardinals and officials of the Roman Court enjoy civil immunities in different parts of Italy.

Laterite (Lat. *later*, a brick), superficial deposit of red or brown clay, produced on the surface of rocks by their decomposition common in tropical regions, such as India, Arabia, and the Sahara. L. is usually soft and friable, and rich in iron, though hard masses occasionally occur. The depth of the beds varies up to 30 or 40 ft.

Latex, see RUBBER.

Lathe (etymology uncertain, possibly a modified form of *lath*, or may be derived from Dan. *lad*, a framework, as in *sarelad*, a saw bench; *verelad*, loom, etc.), mechanical appliance for holding and rotating any material to be worked upon by a tool, for the purpose of cutting, polishing, etc. In the anc. 'bow and cord' and 'pole' l.s. the movement was alternately forward and backward; the wheel-driven L. was not used until the fourteenth century. The essential principle of all modern L.s. is that of two point centres in which the work rotates, and a rest to support the tool operating on its surface. If the work revolves between fixed centres the L. is termed a 'dead-centre' one, but very few are of this class. It consists usually of a bed carrying a tailstock and headstock, by which the work is supported and driven. The tool is held and moved by a tool-rest, which is mounted on the saddle.

In the capstan lathe the tools required for various operations are held in a holder which resembles the old-fashioned capstan, the tools taking the position of the capstan handles. By revolving the capstan the various tools can be brought into position in the proper sequence. The turret lathe is a capstan L., in which the capstan head is automatically operated by power-turning of the tools in correct sequence for the job in hand. The work usually done by a L. includes turning, screw-cutting, facing, and boring. L.s. may be operated by treadle, bolting from a line shaft, or by electric

motor, the motive being transmitted by belt cones, with or without back gears, chains, or gear wheels.

See P. N. Hasluck, *Lathe Work*, 1927; E. J. Westbury, *Automatic Lathes and Screw Machines*, 1940; and E. Molloy (ed.), *Lathe-work*, 1941.

Lathom, tn. in Lancashire, 13 m. N.N.E. of Liverpool. The seat of the earl of L. is a mansion built in the Gk. style and dates back to 1750. Another mansion occupied the same site as far back as 1644, when the countess of Derby held out against Fairfax in the Civil war. Pop. 4500.

Lathrop, George Parsons (1851-98), Amer. journalist and poet, b. at Honolulu. He was assistant editor of *Atlantic Monthly* and wrote *A Study of Hawthorne* (whose son-in-law he was) (1876); *A Masque of Poets* (1878); *Spanish Vistas* (1883); and *Behind Time* (1888).

Laths (It. *latta*, Fr. *latte*), thin strips of wood employed in building, forming a foundation for plaster, or tiles, slates, and similar covering for roofs. Lattice-work or bars of Venetian blinds and shutters are made from L.

Latimer, Hugh (c. 1485-1555), Eng. reformer, son of a yeoman, b. at Thurcaston, near Leicester, educated at Cambridge; elected a fellow of Clare College in 1519, and appointed a univ. preacher in 1522. He took priest's orders in Lincoln at a date unknown. In 1529 he incurred disavowal as being known to sanction Henry VIII.'s divorce. He was consecrated bishop of Worcester in 1535 and preached powerful sermons, urging on the Reformation. He was impeached and sent to the Tower twice during Henry's reign, and on the accession of Edward VI. resigned his episcopal functions and devoted himself to preaching and works of benevolence. Under Mary in 1555 he was found guilty of heresy, together with Bishops Ridley and Crammer, and burned at Oxford, an event commemorated by the Martyrs' Memorial. See J. Foxe, *Book of Martyrs*, 1563 (new ed. 1877); J. Stow, *Chronicle*, 1631; and J. C. Ryle, *Bishops Latimer and Ridley*, 1925; and monographs by A. J. Carlyle, 1899, and R. Demans, 1869.

Latimer Clark's Cell, see CILL.

Latimeria Chalumnae, see CELACANTHUS.

Latin America, name given to the twenty republics of S. and Central America, together with Mexico, Cuba, Haiti, and the Dominican Republic. This whole vast area of 8,278,000 sq. m., of which one state alone, Brazil, is larger than the U.S.A., has an unevenly distributed pop. of 125,000,000, and though a high proportion of these are aboriginals, a high percentage of the whites owe their origin to their Sp., Portuguese, and It. immigrant forefathers. Hence the broad generic description Lat.-Amer., though there is no juridical significance to be attached to the description and, strictly, no such citizen or 'national' as a 'Lat.-Amer.' But the term has an importance as denoting among the states a common ideological outlook, a pride in independence, and an approach to political

solidarity in their joint and sev. relations to the U.S.A. and in their European relations.

Bound together as they are by common ties of race, language, and character, these Lat.-Amer. states may be regarded as forming a natural, although not a political, federation, with a well-marked distinctive civilisation opposed to, but not necessarily clashing with, that of their Anglo-Amer. neighbours in the N. The economic and social development of eighteen of these independent republics (i.e. excluding Haiti and the Dominican Republic), upon which Spain and Portugal so indelibly impressed their languages and social systems, has become of increasing interest and importance to the world, and they have now in the last decades begun to play their part in the community of nations, although some of their own problems remain unsolved. To the student of the sociological problems which are everywhere presenting themselves with increasing urgency, the progress of self-governing democracy as represented by L. A. offers conditions and comparisons of growing interest and value. The problems of life and economic development in L. A. differ greatly from those which fall within the experience of European nations, for great variations of topography and climate characterise the S. half of the New World, such as are unknown in the densely settled countries of the Old World, or even by the people of the U.S.A. and Canada. The condition of high elevation, which offsets the heat of the torrid zones, must be one which will profoundly affect the future of the Lat.-Amer. countries and people; and the great differences of elevation, which account for the variations of climate such as correspond practically to differences of lat., render many of these countries complete entities as regards their food products and other resources.

The Lat.-Amer. peoples are commonly subject abroad to certain misconceptions concerning their racial composition. They are regarded on the one hand as Spaniards or Portuguese, or on the other as merely half-breeds. Neither description is correct; the great mixed race of European and Indian blood, the *mestizos*, which forms the bulk of the Lat.-Amer. nations, is too far removed from the original stocks to be specially identified with either. With the stock formed by admixture of white and coloured races, other races are mingling in increased degree, due to immigration, especially that of its., who have greatly modified the composition of the people of Argentina, Brit., Gers., Fr., Arabs, Austrians, Slavs, and a sprinkling of all nationalities are found in smaller degree. The Negro element is derived from slaves and is especially strong in Brazil, where a new race may be said to be coming into being, formed by the union of the Portuguese, the Indian, and the Negro. There are also blacks in Colombia, Venezuela, and on the coast of Ecuador, and in Peru, where they were introduced as slaves. The distinguishing types of people in-

habiting L. A. are the whites, more or less pure; the *mestizos*, formed by the union of white and aboriginal; and the pure Indian; then come the *mulatto*, formed by the union of black and white, and the *zambo*, from the union of Indian and black. The first three are those of national importance, but it is to the *mestizo* that the future of L. A. belongs; and it is this class which constitutes the Mexican, Brazilian, Peruvian, Chilean, and other specially designated people of the New World. It is commonly said that the mixed race of L. A. has inherited the vices of both of its ancestors, but this is too sweeping a characterisation. Rather is it an evolving race, full of life, with the extravagances of a people in the making, in whose hands, too, lies the development of half the W. hemisphere. The character of the ruling classes of the Lat.-Amer. people, formed by the whites and better class *mestizos*, is a complex one, with marked virtues and defects. They are a people full of imagination, creatures of impulse, moved by sentiment and easily stirred to love or hate, both of which extremes are generally short-lived. Their ideals are high, but in practice they may easily follow tortuous methods and opportunism. The constant plunging of the communities into civil war and the sacrificing of the working pop. as 'cannon fodder' has held back the industries and development of the Lat.-Amer. states. The hist. of these republics, since the time of independence, is made up of such struggles. The abuse and neglect of the Indians in L. A. is notorious and certainly the Indian has vices which keep him backward, notably his abuse of alcohol, in which abuse the lower-class *mestizo* shares equally. But abuse of the Indians is a short-sighted policy in regard to a people who occupy large portions of the continent, and in certain regions no race could replace them. The political difficulties of the Lat.-Amer. nations and their backward sociological conditions cannot be ascribed to their form of gov., for as far as statutes and theories are concerned these are excellent. The Lat.-Amer. constitutions are, on paper, 'counsels of perfection.' It is in the application of theory to practice, and statute to common behaviour, that failure in self-gov. has so often been due. The man of Sp. race makes excellent laws for the community, but frequently appears to reserve the right to contravene them himself.

Historically L. A. was once the sole possession of Spain. The Sp. conquistadores, after brutally conquering the Indians, Aztecs, Incas, and Chibchas, exploited the Indian tribes by compelling them to labour as miners and agriculturists. But at the beginning of the nineteenth century, long after Sp. and native blood had mingled, out of a total pop. of 17,000,000 only 3,250,000 were white to 7,500,000 Indians. Immigration into L. A. on any appreciable scale was a late development of the nineteenth century, and the main stream of immigrants flowed into S. Brazil, Argentina, Uruguay, and Chilo. Spaniards and Portuguese

predominated, but there were also large elements of Itals and Germs. Indeed a third of the pop. of Argentina to day is of It descent and more than a third of the immigrants into Brazil between 1830 and 1930 was It. Germs number 750,000 in Brazil, and in Argentina there are some 250,000. Ger speaking people including Swiss and Austrians Brazil also has 200,000. Jap. the outcome of an intensive colonising drive concentrated within the present century. Immigration has given an almost European outlook to Argentinian society, besides conducing greatly to the material and social welfare of the R.

Economic and administrative reforms were made at long last in the eighteenth century, but they came too late to save the empire which collapsed in the beginning of the nineteenth. The immediate causes of the collapse were Spain's monopolistic myopia and the plunder of her foes. These latter included many great leaders famous in the annals of the Sp Amer. struggle for independence, particularly San Martin and Simon Bolivar, liberators respectively of the S. and the N. of S. America, revered not only as great leaders in the field but as statesmen. But having achieved independence in the



LATIN AMERICA

Indian women of Mexico



MEXICAN TYPES

Anon. of Fane

Plate countries and S. Brazil. But it has to be borne in mind that L. A. is not a unity despite the prevailing descent from the Lat. races of the old world. The different states differ widely in wealth and power and also in social and political development.

Spain's great Amer. empire was more or less completely explored and colonised by the end of the sixteenth century. It was of long duration and amazingly wealthy, mainly through its exploitation of the precious metals. But essentially the Sp. overseas empire of L. A. was a failure. Its potentialities excepting metals were neither realised nor exploited; there was no such principle as trusteeship in the relations of their Sp. masters to the indigenous people or even to the European settlers. Spain administered her Amer. empire as a centralised absolutism; colonials were excluded from all share in the work of government or even of administration.

Sp. Amer. revolution. The Lat. Amers. were faced with the still greater task of organising their states in their newly won freedom, and in this task were associated many Brit. names, notably those of Lord Cochrane who commanded the Chilean Navy, Adm. Brown, who commanded the ships of Argentina, and the Brit. legionaries who fought under Bolivar. The independence of L. A. was assured by Brit. sea power and by Lord Castlereagh's note to the European chancelleries in 1817 saying that no other power than Spain would be allowed to use force against the Sp. colonies. Some few years later President Monroe of the U.S.A. sent his famous message to Congress which has come down to posterity as the Monroe Doctrine (q.v.), a still further guarantee of the independence of the new states, albeit conceived rather in the interests of that of the U.S.A., whatever its implications to day.

By 1830 twelve new republics and one new empire had been added to the number of independent states. There were sixteen new republics if the five republics of Central America are counted separately. These latter, in 1823, were theoretically united in the confederation of Central America, which survived only till 1838. Cuba did not attain self-government till 1902 and Panama not till 1903. Haiti declared its independence of France in 1804, but the Dominican Republic fell under the dominion of Haiti and later was again incorporated with Spain for a few years. The great republic of Colombia, the creation of Bolívar, split into the three states of Ecuador, Colombia, and Venezuela. Brazil threw off the Portuguese yoke by a peaceful revolution and, by 1822, had estab. an empire under the house of Bragança. The boundaries of the new S. Amer. States followed, in the main, the old colonial administrative divs., but they were ill-defined and the source of innumerable inter-state conflicts. But though independent the states were far from prosperous. The masses were for the most part poor and ignorant; their politicians lacked experience in autonomy; dictatorship was not only inevitable but necessary to their welfare. But the eventual independence of L. A. justly ranks with the Amer. and Fr. Revolutions as one of the chief formative influences of modern hist. Capital flowed from Europe into the new states. Already by 1825 more than £20,000,000 had been invested by Brit. capitalists in L. A. Foreign immigrants, together with foreign investments in S. Amer. shipping, ports, and public utilities, have all played a decisive part in the spectacular rise of some of these states. Even if the republics of L. A. show very different degrees of progress, politically, economically, and socially, all profess a common democratic faith, though dictatorship remains in those which have a large aboriginal pop. There are still great difficulties, economic, psychological, and practical, to be mastered in the relations of the Lat.-Amer. States to one another, to the U.S.A., and to the world around them. Before it can be assumed that they have evolved out of the stage of political instability. Poverty and ignorance remain widespread in the midst of great cultivation and great wealth. A high percentage of the people in Brazil, Peru, and Ecuador are illiterate. Yet there is a high degree of literary attainment among Lat.-Amer. writers generally.

Politically, economically, and intellectually these Lat.-Amer. republics are destined to play an increasing part in world affairs. Between L. A., the U.S.A., and the Brit. Commonwealth of Nations there are traditional and permanent bonds of mutual sympathy, mutual interests, and mutual ideals. The development of the Monroe Doctrine into what once seemed to be an assertion by the U.S.A. of sovereignty and supremacy in the Caribbean area, roused the greatest resentment in L. A., for it was regarded by the republics as a threatened infringement of their equality in international law and of their

political independence. But the U.S.A.'s policy was profoundly modified under both Wilson and Franklin Roosevelt, their 'good neighbour' policy bringing about a remarkable change in inter-Amer. relations, as was exemplified in recent Pan-Amer. conferences and especially after Amer. troops were withdrawn from the Dominican Republic, Haiti, and Nicaragua. Recent political developments in inter-Amer. relations were the inter-Amer. conference for the maintenance of peace at Buenos Aires in 1931, and the declaration of Lima in 1938, which was a striking pronouncement of inter-Amer. solidarity in face of the Nazi threat to the world. Finally in the interests of what is known as 'hemisphere defence,' all the Amer. states have shown an increasing tendency towards the co-ordination of their military and naval resources.

Conspicuous changes have been wrought in L. A. since the two world wars: civil aviation is revolutionising S. Amer. life to an extent greater than in any other part of the world. The effect of rapid travel over the S. Amer. countries, with their vast distances and lack of ground and water communications, can hardly be exaggerated. The second great change is industrialisation. Hitherto this continent has mainly produced foodstuffs and raw materials, depending for its manufactured goods on Europe and N. America. The two world wars, by almost paralysing sea-borne trade, compelled these countries to adopt a policy of industrial self-sufficiency. Since then local industries, especially in the Argentine and Brazil, have made great advances. Thus São Paulo, the industrial cap. of Brazil, has increased its pop. from 200,000 to 2,000,000; while the industrial production of the Argentine has exceeded the combined value of its agriculture and stock-raising. These developments naturally present economic problems to countries like Great Britain which formerly supplied L. A. with most of their imports of manufactured goods, especially as in every country of L. A. the govt. are active supporters of local industry and the chief distributors of commercial and industrial orders—the natural consequence of the parallel growth of Nationalism (q.v.) and State Socialism. It would appear that the solution of this problem, at least for Britain, can lie only in a more discriminating co-operation between her importers and the S. Amer. market than was necessary in the past. Yet despite the confidence in Lat.-Amer. countries, for which there is much sound reason, there are also obstacles to progress imposed by natural conditions which may discourage the European immigrants whom it is the avowed policy of many Lat.-Amer. countries to encourage in ever increasing numbers. For within even a short drive of, for example, Rio, most civilised of cities, there is virgin forest. European immigrants could not live in savage places unless civilised life were made possible for them. If they came to the continent to-day most of them would drift into the great Lat.-Amer. cities and make the urban

pop. even more disproportionate than ever in its relation to the pop. of the country. Only a long, patient, and consistent programme will people the vast expanse of forest jungle and impenetrable swamp that covers so much of the surface of L. A. to-day. (For the physical features and description of L. A. see under SOUTH AMERICA and under the names of the states individually.)

See A. Joyce, *South American Archaeology*, 1912; J. Bryce, *South America, Observations and Impressions* (an important record of conditions before 1914), 1912; C. R. Knock, *The Republics of Central and South America* (2nd ed.), 1922; C. F. Jones, *Commerce of South America*, 1928; O. Maull, F. Kuhn, and others, *Süd-Amerika in Natur, Kultur, und Wirtschaft* (Handbuch der geographischen Wissenschaft, Berlin), 1930; J. F. Ripley, *Historical Evolution of Hispanic America* (New York), 1932; H. Gorth, *Geologie Südamerikas* (2 parts), 1932, 1935; C. H. Haring, *South American Progress*, 1934; D. G. Munro, *The United States and the Caribbean Area*, 1934; A. Schneider, *Die nationalen Industrien Südamerikas* (Ibero-amerikanische Institut, Hamburg), 1935; J. de K. Lanwe, *L'Amérique Ibtérique*, 1937; M. W. Williams, *The People and Politics of Latin America* (2nd ed.), 1938; C. K. Webster, *Britain and the Independence of Latin America* (select documents from the archives of the Foreign Office), 1938; F. A. Kirkpatrick, *Latin America*, 1938; F. E. James, *Latin America* (contains a detailed bibliography), 1941; V. W. von Hagen, *Maya Explorer: John Lloyd Stephens and the lost cities of Central America and Yucatan*, 1947; S. de Madagario, *The Rise of the Spanish American Empire, 1947*; and *The Fall of the Spanish American Empire, 1948*.

Latin Empire, see BYZANTINE EMPIRE.

Latini, or **Latino**, **Brunetto** (1230-94), famous It. poet, orator, and grammarian, b. at Florence. Here he taught philosophy and grammar. Dante figuring amongst his pupils. He was attached to the Guelph party and held some of the most important offices in the republic. His most noted work is an encyclopaedia entitled *Li Livres dou trésor* (ed. by P. Chabaille, 1863), written in Fr., which contains extracts and trans. on rhetoric, hist., and philosophy from the classic authors. L. was also the author of a treatise on rhetoric and a poem entitled *Il Tesoretto*. See G. Negri, *Storia degli scrittori Fiorentini*, 1722; G. Tiraboschi, *Storia della Letteratura Italiana* (1805-15); G. B. Zannoni, *Il Tesoretto e il Favolotto di ser Brunetto Latini*, 1924; and G. Bertoni, *Il Ducento*, 1940.

Latini, name of one of the oldest nations in Italy, viz. the inhab. of Latium, a country of Italy near the Tiber, comprehending the ters. of the Volsci, Aequi, Hernici, Ausones, Umbri, and Rutuli. **Latinus**, the king of the first inhab., gave the country its name, and under him Laurentum was the cap., changed by Æneas to Lavinium, and by Ascanius to Alba.

Latin Language and Literature.—*Language.*—Lat. belongs to the Italic (in the wide sense of this word) branch and the Latinian sub-branch (the Faliscan dialect being its other member) of the Indo-European linguistic family (see INDO-EUROPEAN LANGUAGES and LINGUISTIC FAMILIES). It was originally spoken by the inhab. of the ant. city of Rome (founded according to tradition in 753 B.C.) and by the Italic tribe called Latini, who dwelt S. of the R. Tiber on the plain to which they gave the name Latium. Curiously enough both the Lat. language and the Lat. alphabet (see under ALPHABET; PALÆOGRAPHY; and WRITING), which have such a great importance in the hist. of civilisation, had a very poor beginning and a very poor hist. during the first half millennium of their existence. Indeed the records are too scanty to trace the detailed linguistic hist. of Lat. in the first period of its development, which lasted till about the middle of the third century B.C. In this period Lat. was still as crude and undeveloped as any other Italic dialect; as far as it is possible to judge from the extant inscriptions and other records the more important Italic dialects, i.e. proper Italic (Umbrian, Oscan, Siculan, Sabine—there were some minor dialects, such as Pelignian, Volscian, Marrucinian, and others), indicate a greater grammatical competence than existed at the time in Rome. There are many differences between the Italic and the Latinian dialects, both in the structure and in the grammar: (1) for instance, the Indo-European velar-guttural sounds represented in the Latinian dialects by qu and u or gu, following n, are represented in the Italic dialects by p and b respectively (the former thus constituting the Q-group, the latter the P-group); a preceding nasals was preserved in Italic but not in Lat.; syncope is much more frequent in Italic than in Lat.; and so forth; (2) the Italic dialects have different verb formations (-f, -t, -l, -nk) where Lat. has -ui (-vi); they have futures in -s, instead of the Lat. -b-, and future perfects in -ust; they retain -s in the nominative plural of o and ā stems, and the short -es in the nominative plural of consonant stems; their genitive ends throughout in -s; they do not have the new genitive plural of Lat. in -orum; and so on.

On the other hand, Lat. of this early period was not quite the same as that of the later periods: intervocalics has not yet become r; the old ending of the dative -ol still remains; qui is used for qui, reos for regi; there are archaic forms such as sakros (for later sacer), iouxmenta (for iumentum), diuxesto (for iusto), and so forth. This archaic Lat. can be studied in a few inscriptions which have been preserved. The oldest record is to be found in the Praeneste fibula (found in 1880), a gold brooch dating probably from the seventh century B.C., rather than from the sixth or even the fifth century, as some scholars were inclined to think. The inscription runs from right to left and reads MANIOS: MED:

FHEFHAKED: NUMASIOI, i.e. in classical Lat., *Manius me fecit Numerio* ('Manus made me for Numerio's'). The most interesting feature of this inscription is the use of the device of combining the letters *f* (digamma) and *h* to represent the sound *n*. Not much later is the famous inscription from the Rom. Forum, belonging to the sixth century B.C. (some scholars, however, assign it to the fifth century B.C.). It is engraved vertically on the four faces of a *cippus*, a broken pyramidal stone found in 1899. The inscription is in boustrophedon style, i.e. in lines alternatively reading from right to left and left to right, or rather, in this case, upwards and downwards. The loss of the upper part of the *cippus* makes every line incomplete, and therefore the meaning of the whole inscription cannot be clearly ascertained. Another inscription, known as *Duenos* (the most intelligible part reads *DUENOS MEN PICEIO*), is on a vase found in Rome, near the Quirinal, in 1880, and seems also to belong to the sixth century B.C., although it is dated by some scholars as late as the fourth century B.C. The direction of writing is still from right to left. There are about thirty words, but as there are no spaces or interpunctuation between them (as on the preceding two inscriptions), the exact wording and the general interpretation are much disputed.

Some Sabine inscriptions, among them one on a vase found at Tivoli, another on a plate of bronze found in the lake of Fucino, and a few inscriptions dedicated to Juno or Juno Lucina, belong to the end of the fifth or to the fourth century B.C. There are also a few inscriptions belonging to the third century B.C. and to the second century B.C. Among the former there are the inscriptions on the tombs of the Scipios, the oldest being on the tomb of L. Cornelius Scipio Barbatus, who *d.* in 298 B.C.; this inscription, originally painted on and afterwards engraved, is assigned to about 260 B.C. (or slightly later); there is also the inscription of the tomb of the famous consul L. Cornelius Scipio, who *d.* in 259 B.C. Only from the first century B.C. onwards do the Lat. inscriptions become so numerous all over the world that they cannot be counted. Sometimes, however, documents were preserved which originally were composed in much earlier times. For instance, the very ant. hymn of the Arval brethren is found in a very corrupt form dating only from A.D. 218. The fragments of the laws of the twelve tables come down from 450 B.C., but the documents preserved cannot be assigned to an earlier period than the first century B.C. The second period of Lat., which may be termed the pre-classical period, lasting from c. 250 to 90 B.C., contains a considerable mass of literature; only a small fraction has been preserved. Rom. power, which constantly was spreading, had already extended to a large part of Italy and Sicily. Lat. became more and more adapted to the needs of legal, administrative, historical, and rhetorical writing of a great empire. The ant. dialects had not perished under the influence of Rom.

civilisation and government: only with Sulla's victory in the Social war (82 B.C.) had the last chance of any Italic dialect of achieving supremacy over Lat. for ever passed away. At the same time the Lat. literary language separated from the vulgar dialect of Rome; the latter, also called *sermo cotidianus*, or daily life language, became general throughout Italy, although in each region it borrowed considerably from the previously spoken languages. The peasantry, without doubt, spoke dialects in which the inflections had never been developed or had been dropped. Some scholars doubt whether the literary language was ever spoken. However, literary men had attempted to improve the methods of recording the language; some reforms (those introduced by Accius and Lucilius) failed, others were successful (the introduction of double consonants by Ennius). Many old forms died out or were retained only in legal, religious, or poetical language. L. Aelius Stilo, b. c. 151 B.C. at Lanuvium, may be considered as the first Lat. philologist. The literary language slowly acquired various characteristics, which remain typical of it, but it has not yet been reduced to a uniform system, and many irregularities appear in structure, grammar, and syntax. It is, however, symptomatic that the most important authors, Plautus, Terence, Ennius, were not Romans, nor even Lat. by birth; Plautus especially is generally regarded as writing excellent Lat. The third period of Lat., the classical or golden age of Lat. language and literature, roughly extends to the Christian era. In the hands of Lucretius, Catullus, Virgil, and Horace Lat. received its finest form as a poetic instrument. Lucretius and Cicero created the Lat. philosophical language, the latter, however, representing nearly all sides of Lat. styles, and especially excelling in oratory and the high polished language used in the law courts. He may be considered as the greatest artist in Lat. prose. Sallust, Caesar, and Livy are the great artists of the Lat. historical style. Lat. prose reached its full maturity in the reign of Augustus, when it attained perfect clarity while keeping its former solidity and dignity. The fourth period of Lat. may be termed its silver age. 'The prestige of the older writers prevents the new from attempting to rival them on their own lines; all that is left for them to do is to express the old ideas in a new way' (Giles). Literary Lat. more and more became marked by an affectation of ornament and straining after rhetorical effect. Partly Livy, but particularly Propertius may be considered as the forerunners of the Lat. silver age. An exaggerated consciousness and point take the place of the more elaborate periods of the past. It would, however, be wrong to assume that there were no great Lat. writers in this period; it is sufficient to mention Tacitus, Suetonius, or Quintilian to prove that there were still great masters of Lat., although there was no hope for a new writer of surpassing his predecessors on their own ground.

The Expansion and Decline of Latin.—

With the conquests of the Rom. legions, Lat. had spread into countries far from Rome, and was almost universally adopted throughout the W. civilised world. In a few countries (Gaul, Spain, and Rumania) Lat. replaced the languages of the natives, and it became the ancestor of the modern Romance languages (besides It. Sp., Portuguese, Provençal, Fr., Rumanian, Rumanian, and minor dialects). At the same time, however, with the increase of commerce and travel, the Lat. vocabulary became increased by borrowings from foreign languages, and many words of common use crept into the literary language; its simplicity and purity were gradually disappearing.

Late Latin.—The tradition of writing in Lat. was kept up by Christian and by medieval scholars, who, however, used an impoverished and disorganised form of the language known as Late Lat. Churchmen and missionaries carried the Lat. language further afield for many more centuries. Catholic Rome was then the light of the W. world, the centre whence religion and learning were disseminated to all parts of W., central, and N. Europe. In consequence Lat., the language of the Rom. Church became and remained for many centuries the international tongue of the European higher intellectual world, and it was the language of the higher schools in W. Europe until the time of the Reformation. Schoolboys everywhere from Italy to Scotland read Lat. and were taught Lat. grammar. Before the invention of printing nearly all important MSS. in the W. world were written in Lat. The first book printed was a Lat. Bible. Univ. profs. lectured in Lat. It was the language of diplomacy until the end of the seventeenth century. (Milton was employed by Cromwell as the Lat. secretary to translate state papers received from other countries and to write replies in Lat.) Even nowadays Lat. is still used extensively for learned works and the theological treatises in the Rom. Catholic Church, although it lost its dominant position in consequence of the natural development of the last three centuries.

Lat. is a highly inflectional language (see LANGUAGES, CLASSIFICATION OF). Nouns have three genders, but only singular and plural numbers, the dual number (still preserved in Gk.) being only present in one or two Lat. words, such as *ambo*, 'both.' Lat. has six cases, nominative, genitive, dative, accusative, vocative, ablative (lacking in Gk.), with traces of a locative. Unlike Gk. Lat. has no article, no aorist tense, and only traces of an optative mood and of a middle voice; it has also less facilities than the Gk. of making compound words and expressing abstract terms: it is also less free in verbal syntax. On the other hand, it has fuller passive inflections than Gk.; it has five declensions of nouns (Gk. has only three). Although it has not that variety of particles and prepositional usage which make Gk. a perfect instrument for expressing the subtlest philosophical thought, it has greater conciseness and precision.

For Lat. writing see under ALPHABET and under the single letters (A, B, C, D, etc.). See H. S. Roby, *A Grammar of the Latin Language from Plautus to Suetonius*, 1887; F. Giles, *A Short Manual of Comparative Philology for Classical Students*, 1901, and 'The Languages of Italy' in S. R. Sandys's *A Companion to Latin Studies*, 1925; F. Skutsch, *Die Kultur der Gegenwart*, I. 8, 1905; O. Wiedemann, *Historische Lautlehre der Lateinischen*, 1907; O. Klemm and P. Lejay, *Syntax Latine* (5th ed.), 1908; O. Weise, *Language and Character of the Roman People* (trans.), 1909; F. Stolz, *Geschichte der lateinischen Sprache*, 1910; and D. Döring, *The Alphabet*, 1918 (with copious bibliography).

2. Literature.—It is impossible to fix with any precision the beginning of Lat. literature in Rome and the neighbouring Lat. communities, that is to say, the date when the art of writing was employed consciously in literary form. Of Lat. inscriptions the earliest known to us are the 'Forum Inscription,' engraved on a brooch found in a Praeneste tomb of the seventh century B.C., and the 'Duenos Inscription' on a clay vessel dating back to the fourth century B.C. Many inscriptions of various kinds, belonging to a period prior to the third century B.C., have been preserved. Some on tablets commemorate victories; others on coffin lids or on busts take the form of epitaphs and eulogies. The text of the famous Twelve Tables (451–450 B.C.) has unfortunately come down to us only in the form of quotations (editor, R. Schoell, 1866). A great advance in the art of writing may be seen in the *Annales*, which are private records of family hist., of brave deeds, of funeral orations, and the like. There is no doubt that a primitive kind of poetry also existed in very early times. Lat. comedy may be traced back to the *saturne*, which took the dramatic form, and were contests of wit and invective, interspersed with songs and dances. But these early writings were only the crude efforts of a young race; the literature of the Rom. people did not, strictly speaking, begin till the middle of the third century B.C.

The first period of Lat. literature, commonly called the pre-classical period, extends from about 250 B.C. to about 85 B.C. During this time the Romans made experiments with various literary forms, with tragedy, comedy, satire, and epic and didactic verse. At the close of the Punic war in 241 B.C., Rome having secured her position as mistress of the Mediterranean, her more wealthy citizens turned to the leisurely pursuit of learning. The only literature that was available to them was that of Greece, and Gk. culture continued to hold sway over Rom. thought to the end. It is a significant fact that the hist. of Lat. literature begins with the name of Livius Andronicus . . . 284–204 B.C.), a Gk. captive of Tarentum, who is celebrated for having produced, in 240 B.C., the first drama on the Rom. stage. His plays were adaptations from the Gk., and achieved such success that theatrical performances became a permanent institution

in Rome Andronicus also trans the *Odyssey* into Saturnian verse and is said to have addressed a lyric poem to Juno Regilla. Considerable progress in the development of the drama and the epic was made by his two younger contemporaries Gnaeus Naevius (c. 270-200 B.C.) and Quintus Ennius (239-170 B.C.). Naevius wrote a great number of comedies and some tragedies, the majority of which were based on Gk originals. But in two cases at least, he handled materials provided by the hist. of his own country and



CATO THE CENSOR
Lateran Museum

may therefore be said to have founded the national drama. His *Ilmonium Romuli et Remi* treats of the legendary founding of Rome, and the *Clustidium* deals with a contemporary historical event, namely the victory of M. Marcellus over the Gallic tribes in 222 B.C. Naevius also laid the foundation of the Latin national epic. His *Bellum Punicum* a verse chronicle narrating the events of the first Punic war in which he himself had taken part, was an acknowledged classic in Horace's days and was undoubtedly an important source of Virgil's *Aeneid*. Only a few fragments of his works remain.

Ennius 'the father of Roman poetry, was b. in dist. of Calabria, known as Magna Graecia on account of the number of Gk colonies that had sprung up in the neighbourhood. Consequently in early life he was as familiar with the Gk as with his native tongue, and when he came to write his *Annales* an epic of Roman hist. in eighteen books he chose the Gk hexameter in preference to the native Saturnian metre. Ennius showed considerable power,

too as a writer of tragedies. These were modelled chiefly on the dramas of Euripides but were infused with the true Roman spirit. A more important branch of his work must be mentioned. His *saturni* differed from the musical 'medleys' which have already been noted in connection with the early beginnings of Latin literature. They were really collections of miscellaneous poems on fabular, philosophical, didactic and various other subjects. A few of these written probably through the influence of Aristophanes and Cratinus dealt with contemporary events in a satirical tone and hence prepared the way for the satire proper a purely native product of ancient Italy. The satire as he used it was later developed by Gnaeus Lucilius (c. 180-100 B.C.) who employing the dactylic hexameter brought all spheres of political, social and literary life within his range of discussion and ridiculed pitilessly all the vices and absurdities of his time. Naevius and Ennius were succeeded by Marcus Pacuvius (c. 220-150 B.C.) and Lucius Accius (170-c. 105 B.C.) who were regarded as the most important tragedians of Rome but whose works have unfortunately been lost. Pacuvius who was a nephew of Ennius wrote imitations of Gk plays as well as *praetexta* (i.e. plays whose plots are derived purely from Roman hist. and in which the hero wears the *toga praetexta* the official robe of a Roman magistrate). Accius was apparently a far more prolific writer. His tragedies were chiefly imitated from Gk models but some were on Roman subjects. He wrote *Terentia* and *Decius* examples of the *praetexta* tragedies of which the titles and fragments of newly-discovered remain and poem on miscellaneous subjects such as grammar, poetry, acting, metrics, antiquities, etc. which have been lost.

The chief exponent of Roman comedy was Titus Maccius Plautus (c. 254-184 B.C.). Of his plays twenty are extant, which are all included in the list of genuine plays compiled by Varro. The best of these are the *Capituli*, *Menecmi*, *Miles Gloriosus*, *Amphitruo*, *Bacchides*, *Trudens*, and *Pseudolus*. They are excellent examples of the *fabula palliata* a particular class of Roman comedy so called from *pallium* a Gk mantle because it was derived from Gk sources. Plautus modelled his style on the New Attic Comedy of Menander, Philomena and other Athenian poets. Though in form and matter Plautus followed Gk models he nationalised his plays by introducing incidents, situations and customs peculiar to the life of Rome. His work is not infrequently slipshod but he had a masterly command over language and an inexhaustible fund of lively though often coarse, wit. Plautus's influence on modern comedy is inestimable. To the dramatists of the Renaissance Plautus was with Aristophanes the model for comedy. His influence is manifest in the work of Shakespeare and Molière as well as in the Restoration Comedy of Manners.

Plautus's immediate successor in Rome was Statius Caecilius (d. 168 B.C.), an

Insubrian Gaul, who had been brought captive to the city about 184 B.C. He is to us, however, hardly more than a name. The titles of some forty of his plays have survived, and he appears to have been held in high esteem. A more cultured, but less virile, writer was Publius Terentius Afer (c. 185-159 B.C.), who, according to tradition, produced his first comedy, *Andria*, under the patronage of Cæcilius. Terence was a Carthaginian prisoner of war, and received his emancipation and education from the senator Terentius Lucanus. His literary gifts admitted him when a youth into the most aristocratic circles of Rome, and he became an intimate friend of men like Gaius Lælius and the younger Scipio Africanus. Besides the comedy already mentioned, he wrote *Hecyra*, *Heautontimorumenos*, *Eunuchus*, *Phormio*, and *Adelphi*, all of which are extant. Terence adhered more closely than Plautus to the Gk. originals, retaining also the Gk. background to his scenes. His plays are chiefly distinguished by their elegance and artistic finish; he lacked the vigorous originality of Menander, and the fresh wit of Plautus.

After the death of Terence a new kind of comedy sprang up, known as *fabula togata*, the form of which was still Gk., but the life and characters lt. Examples of it remain only in fragments, and it is improbable that it ever had any literary value. The earliest representative of this latter form of Lat. comedy was Titinius, who flourished about 150 B.C. His most important successors were Quinctius Atta (d. 77 B.C.) and his contemporary, Lucius Afranius, who was praised by Cicero and retained some of his popularity as late as Nero's time. However, the development of Lat. comedy virtually ceased with the death of Terence. The Rom. populace preferred for holiday entertainment the more sensational performances of mimi, jugglers, and gladiators, and literary enterprise was therefore obliged to seek fresh channels of expression.

Lat. prose, not unnaturally, was of late growth. From the very earliest times prose was used in the necessary business of city life. As has been noted, the earliest inscriptions, epitaphs, laws, and records were written in prose, but the development of prose style, the recognition of prose as a literary medium of expression, took place late in the hist. of Lat. literature. A prose style was gradually formed by the practice of public speaking, oratory being an art in which Romans excelled. It is noteworthy, then, that the first written prose of any real literary importance is the speech of Appius Claudius opposing the proposals of Pyrrhus for peace. This was known to Cicero, but has unfortunately been lost. Marcus Porcius Cato (234-149 B.C.), commonly known as 'Cato the Censor,' was regarded as the founder of Lat. prose literature. About 160 of his speeches were extant in Cicero's time, but have not come down to us. Cato's contemporary orators included C. Lælius and the younger Scipio, who were succeeded by Marcus Lepidus Por-

cius (fl. 137 B.C.) and the famous Gracchi (Tiberius, 163-133 B.C., and Gaius, 154-121 B.C.). The oratory of the next generation, and in particular of Marcus Antonius and Lucius Crassus, attained a higher level of literary perfection, until we reach the unrivalled speeches of Cicero.

Meanwhile scientific treatises were written on the rules of rhetoric, only one of which is extant, namely the *Rhetorica ad Herennium*, formerly ascribed to Cicero, but probably the work of one Quintus Cornificus. The early annalists, who include Fabius Pictor, the historian of the second Punic war, and Cincius Alimentus, who was taken prisoner by Hannibal and narrated his personal experiences, wrote in Gk., probably because Lat. was not sufficiently developed to meet the requirements of prose composition. Cato the Censor was the first to write a hist. of Rome in Lat. prose. His *Origines*, in seven books, brought the hist. of the city down to his own time and comprised the result of his wide study and personal experience. The only work of Cato which has survived is a treatise on agriculture, *De Re Rustica*, to which Virgil probably had recourse in writing his *Georgics*. But Cato's influence prevailed chiefly as an historian, and his successors, Cassius Hemina, Calpurnius Piso Frugi, Cælius Antipater, and others, borrowed freely from the *Origines*. An advance is seen in the work of Claudius Quadrigarius (fl. 90 B.C.), who showed judgment in his choice of material by rejecting all legendary and doubtful records. Sulla, the dictator, who lived about the same time, wrote a memoir of his own life and times, entitled *Rerum Suearum Commentarii*. Sempronius Asellio (fl. 100 B.C.) in his *Rerum Gestarum Libri* was not content with giving facts in chronological sequence, but attempted to explain the cause and effect of events. Other annalists of this period are Valerius Antias, Licinius Macer (d. 66 B.C.), Cælius Antipater, and Cornelius Sisenna (d. 67 B.C.), whose works are lost but for a few fragments.

During the first century B.C. a new impulse was given to the writing of poetry, which for a time had made little or no advance, by renewed study of Gk. and Alexandrian poetry. There existed in Rome at this time a friendly group of poets united by their common enthusiasm for Gk. culture. It included Valerius Catullus (87-54 B.C.) who adapted to his own purpose and obtained complete mastery over various forms of Gk. lyric metres. He wrote passionate love songs to one Lesbia; an epithalamium to Peleus and Thetis, and another in honour of Manlius and Vinia; a paraphrase of Callimachus's *Coma Berenices*, and the *Attila* in galliambic metre, which is as remarkable as a *tour de force* in metrical form as for its dramatic force and vividness of conception. Other members of this group were Gaius, Helvius, Cinna, and Lucius Macer Calvus, whose work has not come down to us. Very different from any of these, both as a poet and as a man, was Titus Lucretius Carus (98-55 B.C.), the author of one of the greatest philosophical

poems in any language. His *De Natura Rerum* in heroic hexameter (14) compounds the physical structure of the universe according to the teaching of Epicurus. Lucretius died before the poem was completed, and it is, probably in consequence, very unequal in quality. Lucretius regarded the graces of poetry as subordinate to the truths of his philosophy, so that it is remarkable with what genius he gives poetic form to an unpoetic subject and a subject moreover, which had not hitherto been treated in the Latin tongue. Catullus and Lucretius died within a year of each other, both forerunners of the great poetic outburst which glorified the age of Augustus.

During the first century B.C. at the close of the republican period Latin prose reached its zenith. Marcus Terentius Varro (116-27 B.C.) was a most prolific and versatile writer. He wrote on philology (*De Lingua Latina*), on agriculture (*Rerum Rusticarum Libri*) on antiquity (*Antiquitates Rerum Humanarum et Divinarum*), and philosophy (*Libri Logistici*). He also published an encyclopaedia of the arts (*Disciplinarum Libri*), and portraits of famous Greeks and Romans (*Imagines*). As a poet and a satirist Varro showed considerable ability. His *Satura Menippeæ*, moral essays written partly in prose and partly in verse, are in imitation of the comic Menippus of Gadara, and are important as marking the development of the Latin 'satire'. The treatise on agriculture is the only one of Varro's works which has been preserved in its entirety and, of the 490 books he is said to have composed, only two have come down to us, the other, *De Lingua Latina* being in a mutilated form.

Marcus Tullius Cicero (106-43 B.C.) made an indelible impression on the literature as on the history of Rome. His literary work may be classified under three headings, his speeches, philosophical treatises, and letters. Oratory had already attained a high perfection in Rome and at the time of Cicero's entrance into public life Quintus Hortensius Hortalus (114-50 B.C.) had no rival in the forum. Hortensius indulged in the florid mannerisms of Attic rhetoric, and his fame was soon eclipsed by the young orator who aimed at polished and correct composition. Of Cicero's speeches fifty-seven are extant, the most famous being the Verrine and Philippic orations, the four speeches delivered against Catiline, *Pro Murena*, *Pro Lege Manilia*, *Pro Archia*, *Pro Sestio*, *Pro Plancio*, and *In Pisonem*. Of his philosophical treatises the chief are *De Oratore*, *De Republica*, *De Legibus*, *De Natura Deorum*, and *De Officiis*. Cicero's letters, *Familiares ad Familiares*, edited by his secretary Tiro, are, of course, unequal in style and very different from his speeches, but they are of inestimable importance to the student for the vivid picture they give of contemporary Roman life among the upper classes. As letters they stand the supreme test, and have long been regarded as the model of epistolary style. They reveal the man himself, in his strength and in his weakness. Cicero's great achievement was the creation of a prose style which

was adapted to all the needs of life. He was sensitive to the dignity and harmony of Latin prose, and avoided all that was merely florid and declamatory. His style is lucid, reflecting every passing emotion of the writer; it is used with consummate ease to convey wit, humour, tenderness, pathos, anger, vehemence, invective, at his will. Thus Cicero made Latin the written vehicle of the civilised world for centuries to come.

Julius Caesar (c. 102-44 B.C.), a colossal figure in the history of Rome is second to Cicero as a writer of Latin prose. Caesar wrote personal memoirs of his campaigns in Gaul, (*Commentarii de Bello Gallico*), in a clear and simple style, admirably suited to the subject. His *Commentarii de Bello Civili* (49-48 B.C.) have also survived, but his other works which include *De Analogia* and *Anticatores* have not come down to us. As a historian Caesar is incomparably superior to any of his predecessors, but like them his main object was to narrate the chief events in due order. Gaius Sallustius Crispus (86-34 B.C.) was the first Roman to attempt an interpretation of historical events. Modelling his work on that of Thucydides, Sallust attempted to give it an artistic unity. Unfortunately he affected an archaic style in imitation of the elder Cato, and not infrequently sacrificed accuracy for the sake of producing an artistic effect. His works were *bellum Catilinæ*, *Bellum Jugurthinum*, and *Historia*. The last-named comprised five books but only fragments of it have survived. Of the other prose writers who flourished towards the close of the republican period brief notice may be given to Cornelius Nepos (c. 99-24 B.C.) the author of an extensive biographical work entitled *De Viris Illustribus* and Julius Iulius (d. 43 B.C.), who added an eighth book to Caesar's *Commentarii de Bello Gallico* and probably wrote the *Bellum Alexandrinum*.

The Augustan period may be said, roughly speaking, to have begun with the victory of Augustus at Actium in 31 B.C. His death in A.D. 14 marked its close. This period was distinguished by a remarkable output of verse only to be compared in its fertility with that of the Elizabethan age in England. Publius Vergilius Maro (70-19 B.C.), in his expression of the Roman spirit, of the national sense of duty and honour, is the most representative poet of his age. His earliest publication, a number of bucolic poems, called the *Eclogues*, which were written in imitation of the Idylls of Theocritus, established his fame. He won a patron in Mæcenas, to whom he addressed his *Georgics*. The *Æneid* was written in imitation of the *Odyssey* and *Iliad*, and was intended to arouse patriotism by a glorification of the origin of the Roman people in the founding of their city by Romulus, the descendant of Aeneas, and by a comparison between the Trojan hero and the Emperor Augustus. It was unfinished at the death of Virgil, and was published under the command of Augustus under the editorship of Varius Rufus and Plotius Tucca. The *Æneid* has stood the test of time, and is

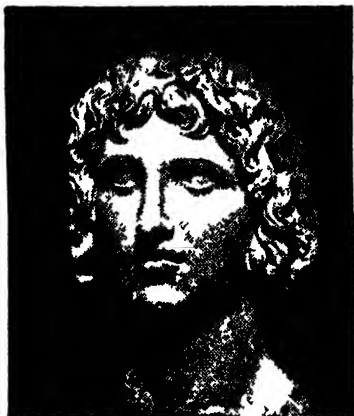
now ranked with the great epics of the world, with the *Odyssey* and the *Iliad*, with Dante's *Divine Comedy*, and with Milton's *Paradise Lost*.

Quintus Horatius Flaccus (65 B.C.-A.D. 8) was, like Virgil, a man of humble origin who, through his literary ability, was admitted to the inner circle of the highest society in Rome. About 35 B.C. Horace pub. his first book of satires, dedicated to Maecenas, who in return made him the gift of a small Sabine estate, henceforth his favourite abode. They were written in hexameters, and owed their form to the satires of Lucilius. Horace himself called them *Sermones*, or conversations. Between 30 and 29 B.C. his second book of *Satires* and his *Epodes* were completed, while the *Odes* (*Carmina*) were pub. in 23 and 13 B.C., and the *Epistles* (*Epistulae*) in 20 and 15 B.C. As a metrist Horace was unrivalled. His verses are lively and graceful, and so finely polished that they give the effect of spontaneity and ease, but the wings of his Pegasus are clipped so that he never soars to the loftiest heights of poetry. He has an extraordinary gift of words; his style is epigrammatic and terse, 'neat because homely.' His poems give us a very clear picture of contemporary life, and afford delightful reading for their revelations of his personality. Horace also pub. a work of literary criticism, the famous *Epistula ad Pisone*, better known as the *Ars Poetica*, which has exercised a powerful influence on subsequent literary criticism and creation, particularly in France and England. Its immediate aim was to give guidance to young dramatists.

Tragedy was again in vogue, and was being attempted by Aulus Pollio (76 B.C.-A.D. 5), Varius Rufus (74-11 B.C.), and Augustus himself. The younger generation of poets were, however, chiefly attracted by elegiac poetry, which had been cultivated in the Ionian cities and in Alexandria. The chief representatives of the Rom. elegists are Tibullus, Propertius, and Ovid. Albius Tibullus (51-19 B.C.) sung poems to his mistress *Delia*, and lamented her faithlessness in *Nemesis*. His poems are marked by their sincerity; the versification is polished, while the language is simple and homely. The poet, when not in mind of his love, sang the praises of country life. Sextus Propertius (49-15 B.C.) had no metrical skill, but possessed greater political genius. His chief theme was his mistress Cynthia. His style is often harsh and umbrous, but he was stirred by a great, if sensuous, passion, and his poetry at its best is fresh and vigorous and rich in imagery. Publius Ovidius Naso (43 B.C.-A.D. 18), unlike the two fellow poets of his youth, lived to a ripe old age. His early life was spent in Rome where his amatory poems—*Amores* addressed to Corinna and Heroides, a series of fictitious love letters, the *Ars Amatoria*, and *Remedia Amoris*—as well as the *Metamorphoses*, a collection of stories from Gk. and Rom. mythology, and the *Fasts*, a poetic exposition of the Rom. calendar, were produced. In A.D. 8 he was suddenly

banished from Rome for an unknown offence to Augustus, and spent the remainder of his life in exile at Tomi on the Black Sea. There, in his loneliness, he gave expression to his grief in the *Tristia*, *Epistulae ex Ponto*, and *Ibis*.

The prose of the Augustan period is today represented by one great writer, Titus Livius (59 B.C.-A.D. 19), of Patavium (modern Padua). He began his hist. of Rome, *Ab Urbe Condita* (from the foundation of the city), about 26 B.C., and did not publish the first twenty-one books until after the death of Augustus (A.D. 14). The hist. was originally in 142 books (only books i.-ix. and xxi.-xiv. are extant) and extended from the arrival of



Anderson

VIRGIL

Capitoline Museum, Rome.

Enneas down to the death of Diuus in 9 B.C. The faults of the work are obvious. Livy had no idea of historical research, and his chronology and description of places are often inaccurate. Moreover, he had little grasp of the Rom. law and the Rom. military system. But he is a consummate artist in the arrangement of his material and in the dramatic presentation of his characters. Minor prose writers include Vitruvius Pollio, the author of *De Architectura*; Annæus Seneca, father of the philosopher and author of *Oratorum et Rhetorum Sententiae Divisiones Colores*; Pompeius Trogus, who wrote the first general hist. in Lat. *Historia Philippica*, of which only an epitome by Justin is extant; and Marcus Verrius Flaccus, who wrote the first Lat. lexicon, *De Verborum Significatu*, most of which is lost.

The period immediately succeeding that of Augustus was barren of first-rate literature. There were numerous minor writers, but under the suppressive and jealous rule of Tiberius literature could not flourish. The most notable of the prose

writers were Vellius Paterculus who wrote a compendium of Roman hist., and Valerius Maximus, who made a collection of anecdotes, *Factorum et Dictorum Memorabilium Libri*. The poets included Phaedrus, the fabulist, and Germanicus, the emperor's nephew, who trans. the *Phaenomena* of Aratus into Lat. hexameters. A more prominent figure was Lucius Annaeus Seneca (1 B.C. - A.D. 65), the philosopher, whose numerous prose writings included discourses on philosophical and moral subjects, *Questiones Naturales*, and letters. The tragedies ascribed to him (*Medea*, *Agamemnon*, *Phaedra*, *Edipus*, etc.) are the only tragedies in Lat. literature which have come down to us. Seneca's nephew, M. Annaeus Lucanus (A.D. 3-65) wrote an unfinished epic poem in ten books on the struggle between Caesar and Pompey, entitled *Pharsalia*. Aulus Persius Flaccus (34-62), the friend of Lucan, left six vivacious *Satires*, which still retain their interest.

After the death of Nero (68) a more serious tone was reflected in literature. During the reign of Vespasian the only writers of any note were Plinius Secundus (23-79) Pliny the Elder, whose *Historia Naturalis* is a storehouse of learning, and C. Valerius Flaccus, the author of an unfinished poem, *Argonautica*, who endeavored to maintain the tradition of the Virgilian style. In the reign of Domitian there began a revival of letters. The most original genius of his age was M. Valerius Martialis (c. 40-102). Martial was the creator of the epigram in its modern sense. His satire invariably had a sting in the tail. He combined a brilliant and caustic wit with the technical skill of Ovid, but his poems are frequently marred by his fulsome flattery of men in high place and by his vulgar lack of reticence. His contemporary poets were of a secondary order. Silius Italicus (c. 25-101) wrote a lengthy and unimpaired poem on the Punic war, and Papinnus Statius (c. 40-96) left two mythological poems, *Thebais* and *Achilleis*, which are blighted here and there by a purpurine punniness and a collection of shorter poems, entitled *Silvae*. The most influential prose writer was Fabius Quintilianus (35-95) whose *Institutio Oratoria* (The Training of an Orator) has remained a standard work on the subject.

A more complete literary revival took place in the reigns of Nerva, Trajan, and Hadrian. The prominent figures of this so-called Silver Age are Tacitus, Juvenal, and the Younger Pliny, who add 'as it were, a sunset splendor to the literature of Rome'. Cornelius Tacitus (c. 54-120) is known principally by his *Historiae*, extending from Galba to the death of Domitian, and *Annales*, a hist. of the Julian house, beginning with the death of Augustus. He also wrote an account of Germania and a beautiful memoir of his father-in-law, Agricola, besides a dialogue, *De Oratoribus*, his earliest extant work. Tacitus is a careful, though not an impartial, historian. His deep scorn for the emperors, whom he regards as the greatest enemies of Rome, cannot but make itself

felt. The spirit of the age is again prevalent in the work of Decimus Junius Juvenalis (c. 60-140). He has not the good-natured cynicism of Horace. Juvenal's *Satires* paint with pitiless scorn and moral indignation the degraded state of Roman society. Plinius (Aulus Secundus) (c. 62-113), the nephew of Pliny the Elder, gives us in his *Letters* a more pleasing picture of the public, social, and literary life of his time. The only remaining literary men of note who flourished during the reign of Hadrian are Suetonius Tranquillus (c. 75-160), fragments of whose *De Vita Caesarum* have come down to us, Cornelius Fronto (100-75), whose letters to his pupil Marcus Aurelius are of some interest, and Aulus Gellius (130-70), the author of *Noctes Atticae*, a series of quotations and excerpts from miscellaneous Greek and Latin authors.

With Gellius the literature of classical Lat. is closed. For many centuries works in Lat. were still produced. At the time of the Renaissance European scholars wrote in Lat. believing that only by so doing would their work endure and since then controversial works as well as theological and scientific treatises have been written in Lat. in order that they may be understood by educated men of different nationalities. But all such late Lat. literature is outside the scope of the present sketch.

See separate articles on the various authors, and see also C. I. Crutwell, *History of Roman Literature*, 1877; G. A. Simcox, *History of Latin Literature from Ennius to Boethius*, 1883; W. Y. Sellar, *Roman Poets of the Republic*, 1889, and *Poets of the Augustan Age*, 1891; A. S. Wilkins, *Roman Literature*, 1890; J. W. Mackail, *Latin Literature*, 1895; R. Y. Tyrrell, *Latin Poetry*, 1895; R. L. Nettleship, 'On Literary Criticism in Latin Antiquity,' in *Journal of Philology* (vol. viii), W. S. Teuffel, *Geschichte der römischen Literatur* (sev. eds., the last complete one being the 6th, rev. ed. by W. Kroll and L. Skutsch 1910-16, vol. II has appeared in a 7th ed., 1920, Eng. trans. by C. C. Warr, of an older revision by L. Schwabe), the best general hist. is by M. Schanz (*Geschichte der römischen Literatur bis zum gesetzgebungszeit des Kaisers Justinian*) in I. V. Müller's *Handbuch der Altertumswissenschaft*, new (11th) ed., revised by C. Housman, began to appear in 1927. See also I. V. Wright and T. A. Sinclair, *A History of Later Latin Literature*, 1931; J. F. D. Alton, *Roman Literary Theory and Criticism* 1931 and H. J. Rose, *Handbook of Latin Literature*, 1936.

Latin Union, political monetary union entered into in 1865 by France, Belgium, Italy, and Switzerland, by which the amount of silver to be coined yearly was fixed for each member, in order to protect them against the relative appreciation of silver to gold, due to the gold discoveries in Australia and California. A few years later Greece, Serbia, Rumania, and some of the S. Amer. states also joined the union. The unit of coinage was the franc. In 1874 the members agreed to suspend the free coinage of silver owing to the fall

in this metal which made it depreciate relatively to gold. See Bimetallism.

Latinus, son of Faunus and of the Nymph Marica, but other legends say of Hercules and Fauna, or of Odysseus and Circe, king of Latium, father of Lavinius, the wife of Aeneas. See Virgil, *Aeneid*, vii.-viii.

Latitude and Longitude. The lat. of a point on the earth's surface, in the simplest language, is its angular distance, N. or S., from the equator, measured on the curved surface of the earth, along the meridian of the point in question. It is measured and recorded in degrees (°), minutes (′), and seconds (″) (60 seconds = 1 minute; 60 minutes = 1 degree). Direct measurement, whether on sea or land, is virtually impossible, so that astronomical observations and calculations are needed. Lat. may be variously regarded and described. Thus the lat. of a place is equal to the angle between the direction of a plumb-line at the place and the plane of the equator. This is equivalent to the angle between horizontal planes at the place and at the equator and also to the elevation of the celestial pole above the horizon. *Geographical lat.*, as used in maps, is based on the supposition that the earth is an oblate spheroid, of which the compression and the angle which the normal makes with the equator are known. It differs from *astronomical lat.* only in being corrected for local deviation of plumb-line. The *geocentric lat.* of a place is the angle which a line from the earth's centre to the place makes with the plane of the equator. The lat. of a celestial object is its distance from the ecliptic measured by the arc of the great circle which passes through the pole of the ecliptic and the object.

The following is an outline of a few different practical methods used for determining the lat. of a place or ship. (1) *Observation of the stars.* This method is one of the easiest and quickest, as star tables are worked out in the *Nautical Almanac* for all stars of the first magnitude in both hemispheres, and for navigation stars of the second and third magnitudes, with the astronomical apparent times at which they cross the observer's meridian on the first day of each month in the year. All stars come to the meridian four min. earlier each day. The altitude of the star on the meridian is observed, and the lat. calculated from its known polar distance. (2) *Observation of the Pole Star.* The true altitude of the star is observed; the local apparent time is obtained and converted into astronomical time. To this is added the sun's right ascension, from the *Nautical Almanac*. Apply this result (minus 24, if necessary) to the table of Pole Star corrections, and then add the degrees and minutes to, or subtract from, the true altitude already determined. (3) *Observations of the sun at meridian.* The corrected altitude, which is called the true central altitude, is obtained by the use of the sextant, and subtracted from 90°. The zenith distance, N. or S. as the case may be, is given by the result. The

angular distance of the sun from the celestial equator (the corrected declination) is then taken from the *Nautical Almanac*. If both the declination and the zenith distance be the same, N. or S., add them together; if one is N. and the other S., subtract the lesser from the greater and the result is the lat. N. or S. as the case may be. If the sun be obscured by a cloud at the meridian, an observation is taken of it as near as possible to the meridian, and its altitude at the meridian then worked out. The same principles are observed if observations are made of the moon, or a planet. (1) *Observation by means of an artificial horizon.* This method, which is employed on land, is carried out by the aid of a basin, etc., filled with some reflecting medium, such as liquid tar, quicksilver, etc., and protected from the wind to keep it still. The observer should walk backwards, facing the celestial body from which observations are to be made, until its image can be seen in the reflecting medium. The sextant is then brought to bear on the celestial body, the image of which is brought down to coincide with the reflected image. The altitude of the body observed in degrees is half that shown on the sextant except in those instruments which are specially graduated to make this adjustment automatically. From this and the star's declination the lat. can be calculated.

Variability of Terrestrial Latitude.—The lat. of a point on the earth's surface is measured from the equator, which is defined by the condition that its plane is at right angles to the axis of rotation of the earth. Therefore if the points on which this axis intersects the earth, i.e. the poles, are not fixed, the position of the equator will change, and consequently the lat. It was shown by research about the end of the nineteenth century that such a change, very minute but measurable, does take place; the N. and S. poles wander round in a circle with a radius of approximately 25 ft. The theory regarding the periodicity of the change is briefly as follows. The fourteen months' (429 days) term is a result of the fact that the axes of rotation, and of the figure of the earth, do not strictly coincide, but make a small angle (about 0° 13 on the average) with each other. If the matter on the surface of the earth were immobile, the result of this non-coincidence would be the revolution of one pole round the other in a circle of radius 0° 13 (equal to 15 ft.) in a period of 429 days; this is known as the Eulerian motion from the name of the astronomer (Euler) who discovered it. But owing to meteorological causes the motion is subject to ann. change. Apart from the statical causes, that is to say, the changes of position of the deposits of snow and ice on the earth, the causes of this change are dynamical. The statical causes change the position of the pole of figure of the earth, but to an infinitesimal and negligible degree. The dynamic causes are the atmospheric and oceanic currents. If these were invariable the effect would be the Eulerian motion, not exactly round the mean pole of figure of earth, but a point

slightly apart. The currents, however, vary annually, and the motion of the pole of rotation varies also. The International Geodetic Association estab. a series of stations round the globe, as nearly as possible at the same lat., to make similar observations, in view of the importance of the fluctuations in position of the poles. The prin. stations are at Carloforte, in Italy; Midusawa, in Japan; Gathersburg, in Maryland; and Ukiah, in California, all situated about $39^{\circ} 8'$ lat. N.

The length of a minute of arc, measured along the equator (which for all practical purposes is invariable), is known as a geographical mile; but a statute or 'land' mile, being an arbitrary unit introduced by Queen Elizabeth, is 5280 ft. This statute mile is never used in navigation. The standard nautical or 'sea mile' is, strictly, the length of a minute of arc measured along a meridian, but as this length varies from about 6046 ft. at the equator to about 6108 ft. at the poles the approximate mean value is therefore taken as 6080 ft. as the standard nautical mile for measuring distances at sea. When lat. is expressed in minutes it gives the distance in nautical miles. Thus if the lat. of a place is $50^{\circ} 45' N.$, then it is $(50 \times 60 + 45) = 3045$ nautical miles N. of the equator. Places having the same lat. clearly lie on a 'small circle' (as it is called) the plane of which is parallel to the plane of the equator. This small circle is called a parallel of lat.

The long. of a place on the earth is the angle which the terrestrial meridian from the pole through a point on the earth's surface makes with some standard meridian. As the earth runs through 360° of long. in twenty-four hours, if the sun is on the meridian at any place it will be at the meridian on another place $15^{\circ} W.$ of the first one hour later. Thus 15° of long. represent one hour of difference in apparent time; all methods of determining long. are based on this fact. Formerly each nation took its own standard meridian, but the meridian of Greenwich is now used as the standard. It is important to remember that the astronomical day starts at midnight and the hours are reckoned from mean midnight, which is 0 hr., up to 24 hrs. later. Thus 9 a.m. Jan. 1 (civil time) is Jan. 1 day 9 hrs. astronomical time, but 3 p.m. Jan. 1 14 Jan. 1 day 15 hrs. astronomical time. Greenwich time, which is all-important in the navigation of ships, has customarily been obtained from the set of chronometers which every ship carries; but Greenwich time is now broadcast twice a day from Rugby (England). In astronomy the long. of a celestial body is the distance in degrees of its projection upon the ecliptic from the vernal equinox, counted in the direction W. to E. See *The Nautical Almanac* and *Inman's Nautical Tables*, 1873; J. Gill, *Textbook on Navigation*, 1898; H. Roper, *Navigation and Nautical Astronomy*, 1908; and *Navigation Manual*, vol. II. (Admiralty), 1938.

Latitudinarians (Lat. *latitudo*, breadth), name applied to a school of Eng. theologians in the seventeenth century who

endeavoured to inculcate a more broad-minded and liberal spirit into the Eng. Church. They opposed both the High Church party and that of the Dissenters, and strove to minimise the importance attached to particular doctrines and ceremonies. The chief representatives were Hales, Chillingworth, More, and Tillotson. Their movement was closely allied to the philosophical school of the 'Cambridge Platonists,' and they may be considered the forerunners of the Broad Church. See J. Tulloch, *Rational Theology in England in the Seventeenth Century*, 1872.

Latium: 1. (It. Lazio, the country of the Latins), div. of anct. Italy, about two-thirds the size of Wales, which extended along the coast of the Tyrrhenian Sea, south-eastward from the mouth of the Tiber, which formed the inland boundary of the N. half. See *ROME*. 2. Region of modern Italy, which includes the Vatican city. Area 6634 sq. m. Pop. 3,159,000.

Latona, see *LITON*.

La Tour d'Auvergne, Théophile Malo Corret de (1713-1800), Fr. captain of grenadiers, b. at Carhaix, Brittany. He served with the Republican army in the Pyrenees and Alps, leading with great success his 'Infernal Column.' As he obstinately refused to be promoted, Napoleon bestowed upon him the title 'Le Premier Grenadier de France.' He was killed at Oberhausen, Bavaria. He pub. sev. books on the Bretons. See lives by E. Simond, 1899, and C. le Goffic, 1928.

La Trappe, see *TRAPPISTS*.

Latreille, Pierre André (1762-1833), Fr. entomologist, b. at Brives. In 1788 he became a priest, but spent most of his leisure studying insects. During the revolution he suffered imprisonment, but arousing interest through his entomological studies was released. He was appointed to take charge of the insects at Jardin des Plantes, Paris, and succeeded Lamarck as prof. of zoology. He wrote *Genera crustaceorum et insectorum*, the portion 'Insecta and Crustacea' in G. de Cuvier's *Régne animal* (1829).

Latrobe, (n. in Westmoreland co., Pennsylvania, U.S.A., 35 m. E.S.E. of Pittsburgh. It is a mining and coking dist. and has large collieries, steel and glass works, saw mills and lumbering mills, etc. Pop. 11,200.

Latter Day Saints, see *MORMON CHURCH*.

Latice, see *OUVRANDA*.

Latvia, Soviet Socialist Republic on the E. and S. coast of the gulf of Riga, and, prior to the First World War, part of the Russian Empire. The surface of L. is mostly flat and marshy, with many lakes. The chief occupation is agriculture, including numerous dairy farms. There is also a thriving fishing industry. Flax, butter, timber, paper, and glass are the chief exports. L., however, is developing its industries, notably metallurgical, textile, and chemical. Imports are mainly agricultural machinery and implements, coal, cotton goods, and herrings—the last three categories being from Great Britain, which country takes a fair quantity of Latvian pit-props, flax, and sawn timber. The Letts are an Indo-European people of the

Lithuanian race, and were Christianised by the Teutonic knights. The Gers, after defeating the Letts in the thirteenth century, set up a federal republic consisting of L and the other Baltic republics of to-day. This federation endured for three centuries, and L then fell under the rule of the Lithuanian Poles. In the eighteenth century it was assigned to Russia and remained under Russian rule until Nov 18, 1918 when it was proclaimed an independent state. The majority of the European powers recognised its sovereignty as being in conformity with Lettish public opinion. The constitution passed by the Constituent Assembly Feb 15, 1922 was that of a democratic republic with universal suffrage and proportional representation. The president was elected by the *Saima* (parliament) and held office for three years but no president might remain in office for more than six consecutive years. The *Saima* was composed of a hundred representatives. This constitution was suspended in 1924 and all political parties were dissolved. A Conservative agrarian and national group then exercised dictatorial rule. Shortly after the Second World War broke out Stalin availed himself of the opportunity to establish a protectorate over L and the other Baltic states. In June 1940 L was completely occupied by Russian troops and a new gov. was set up. Shortly afterwards L was incorporated in the U.S.S.R. as a federal republic. The German minority was evacuated to Germany by order of Hitler. In 1941 the Gers, invading Russia, overran L and the other Baltic States. L was always an important port to Russia on account of the strategic centres of Riga, Libau (Liepaja) and Windau, of which ports the two latter are free ports. L was retaken by the converging forces of Maslennikov and Iermenko on Oct 15, 1944 and the remaining Gers in L were penned in a hopeless condition in the peninsula above Libau. Other (the) District (Dangavpils) and Mitau (Jelgava) Area 24,840 sq. mi. Pop. 1,950,000. See R. O. G. Urich, *Lithuania Country and People*, 1938. B. Newman, *Baltic towns*, 1939, and *Lithuania*, 1948, and I. W. Peck, *The Baltic Nations*, 1948.

Lauban, See Libau.

Laube, Heinrich (1807-91), Ger. journalist, novelist and playwright, b. at Sprottau in Silesia. In spite of a somewhat interrupted career his output of dramas and novels was considerable; the most famous being *Gruf Ixer* (1846) and *Montrose* (1859). His romances in 111 *Die Bohminger* and *Der Schallert Hühner*. L. was noted for his ability in stagecraft. His collected works were ed. in 50 vols by H. H. Houbon (1910-12). See I. Reich, *Das Burgtheater unter Heinrich Laube und Adolf Wilbrandt*, 1925, also life by M. Krammer, 1926.

Laud, William (1573-1645), Eng. prelate, archbishop of Canterbury, b. at Reading, Berkshire. He was educated at Reading Free School and St John's College, Oxford, becoming a fellow in 1592, graduated

B.A. in 1594, M.A. in 1598, ordained in 1601, graduated D.D. in 1608. After holding various livings, he was made archdeacon of Huntingdon in 1615, and dean of Gloucester in 1617. In 1621 he became prebendary of Westminster and bishop of St. David's in 1626 being transferred to the see of Bath and two years later to that of London. In 1630 he was elected chancellor to the univ. of Oxford, and finally archbishop of Canterbury (1633). Through out Charles I's reign L.



WILLIAM LAUD

was one of the king's most faithful supporters. He instituted rigorous proceedings against all who refused to conform to the Church of England and endeavoured to extinguish all forms of dissent by means of fines, exile and imprisonment. In 1640 he was impeached for high treason by the Long Parliament and committed to the Tower (1641) tried in 1641 and executed in 1645. L. set himself the task of raising the Anglican Church to a position as a branch of the Church Catholic in opposition to the Puritan or left wing eccles. movement of the times. Of his works the most interesting is his *Diary* pub. by H. Wharton (1652-60). See also his biography by his disciple and admirer Heylin, under the title of *Cyprianus Anglicus*. His works were pub. in 5 vols. (1847-60). See lives by A. Benson 1887, C. Simkinson, 1894, W. Hutton 1899, W. L. Mackintosh, 1907, R. P. Collins, 1940, and H. R. Trevor Roper, 1940.

Laudanum, tincture of opium in dilute spirit, and is a brown coloured liquid with the characteristic smell of opium. It contains about 1 per cent of morphine. It is administered as a soporific and for relief in gastric troubles. Its use in the case of young infants, once common, is now recognised as dangerous and has been replaced by morphine. L. poisoning should be treated by an emetic, for which purpose apomorphine is best. The stomach should be washed out with a salt

solution and caffeine introduced by the mouth or in the form of strong coffee per rectum. The patient should be kept awake and walked about if possible. Failing this artificial respiration should be resorted to.

Lauder, Sir Harry MacLennan (b. 1870), Scottish comedian and singer, b. at Portobello. He worked as mill-boy and miner. His first appearance on the stage was at Arbroath. His first success was in Belfast, Ireland; and since then his imitable impersonations of Scottish characters on the vaudeville stage (especially at the old Tivoli) have won him deserved popularity. He has written both words and music of many of his songs. *Stop yer ticklin', Jock, Ma Scotch Bluebell, Rounin' in the Gloamin', and A wee Doch-an-Doris* being some of his best. L. first went to America in 1907 and was a great favourite there. His only son, Capt. John L., was killed in the first World War. 1916. L. was knighted in 1919.

Lauder, William (c. 1710-71), notorious would-be detractor of Milton's honesty and literary achievement. He wrote *An Essay on Milton's Use and Imitation of the Moderns in his 'Paradise Lost'*, in which he used falsified quotations from various seventeenth-century writers, to prove plagiarism on the part of Milton. Dr. Douglas exposed Lauder, and Dr. Johnson made him sign a retraction.

Lauder, royal bor. of Berwickshire in Scotland, is situated on the R. L. It was the historical scene of the brutal murder of Robert Cochrane and six others before King James III in 1482. Pop. 13,000.

Lauderdale, John Maitland (1616-82), second Earl and first Duke of Maitland, b. at Lettington (Lennoxlove) near Haddington. In 1643 he was named one of the commissioners for the Solemn League and Covenant. In 1645 he succeeded his father as second earl of L. In 1651 he followed Charles to Worcester, where he was taken prisoner and detained for nine years. He became Scottish secretary of state at the Restoration, and laboured with unceasing persistence to bring about the absolute power of the Crown in Church and State. He was a member of the Privy Council and had a seat in the Cabal ministry. In 1672 he was created duke. Intrigues were levelled against him in 1674, and in 1678 a vote was carried in the Commons asking for his removal from the royal presence, which, however, was thrown out. Chief authorities for his life are Sir G. Mackenzie, *Memoirs*, 1821; R. Baillie, *Letters and Journals*, 1637-72, ed. by D. Laing, Bannantyne Club, 1811-2; and the Lauderdale papers in the MSS. room at the Brit. Museum.

Laudon, Gideon Ernst, see **LOUDON, FREIHERR VON**.

Laupe, see BREVART.

Laue, Max von (b. 1879), Ger. physicist, b. at Pfaffendorf, near Koblenz. As a physicist of high standing he is chiefly known as the pioneer of modern X-ray crystal study. He surmised that the regular arrangement of points in a crystal would serve to produce diffraction effects

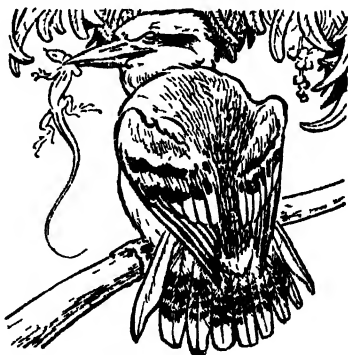
on incident X-radiation. Success was expected because of the comparable values of point distances in a crystal and the supposed wave-length of X-rays. The experiment performed by Friedrich and Knipping (1912), at his suggestion, vindicated his theory. He was awarded the Nobel prize for physics in 1914. He has pub. *Die Relativitätstheorie* (1911, 1921); *Über die Auffindung der Röntgenstrahlinterferenz* (Nobel lecture, 1920); *Röntgenstrahlinterferenz* (1941); and *Materiewellen und ihre Interferenz* (1944). See K. Schiebold, *Die Laue-Methode*, 1932.

Lauenburg, Duke of, see **BISMARCK, OTTO EDUARD LEOPOLD VON**.

Lauenburg, or Saxe-Lauenburg, Duchy of, well-cultivated and fertile dist. of Schleswig-Holstein, Germany. It was formerly united with Holstein under the Crown of Denmark, but by the treaty of (Gastein) (1865) it was ceded to Prussia. The allied 8th Corps launched an attack across the Elbe at L. on April 29, 1915, encountering only weak opposition. Chief towns: Lauenburg and Ratzeburg. Area 453 sq. m. Pop. 52,000.

Lauenburg: 1. Tn. on the Elbe, 25 m. S.E. of Hamburg, Germany, formerly cap. of the duchy. Here are ruins of the twelfth-century ducal palace. Pop. 5390. 2. Tn. on the Leba in the prov. of Pomerania, Poland, 35 m. W.N.W. of Danzig. Pop. 11,000.

Laughing Gas, gas used as an anæsthetic by dentists, so called because it is apt to produce hysterical laughter when inhaled. Technically, nitrous oxide.



LAUGHING-JACKASS

Laughing-jackass, Great Kingfisher, or Kookaburra, popular name of the species of *Dacelo*, an Australian genus of coraciiform birds belonging to the family Alcedinidae. They are so called because of their extraordinary gurgling notes. *D. quays*, the prin species, has brown plumage, with a white stripe on each side of the head. It nests in shady forest-creeks, but will also frequent the vicinity of houses.

Laughton, Charles (b. 1899), Eng. actor, b. at Scarborough. He was educated at Stonyhurst and the Royal Academy of

Dramatic Art, and made his first appearance in 1926. Married Elsa Lanchester in 1929. His film roles include *The Private Life of Henry VIII.* (1933); *The Barretts of Wimpole Street*; *Tuggles of Red Gap*; *Midway on the Bounty*; and *Rembrandt*. In 1937 he formed his own film company, the Mayflower Pictures Corporation, in partnership with Erick Pommer. See Elsa Lanchester, *Charles Laughton and I*, 1938.

'Launay, Vicomte de' (Delphine Gay), see under GIRARDIN, EMILE DE.

Launce, see SAND LAUNCE.

Launceston: 1. (Anct. Dunneheved), municipal bor., Cornwall, England. 22 m. W. of Plymouth. It played a part in the Civil war. There are copper mines and ruins of a castle and priory. Pop. 4600. 2. Chief city of N. Tasmania, beautifully situated in a valley at a confluence of the N. Esk and S. Esk Rs., which form the estuary of the St. Tamar. It is a thriving up-to-date city, being the second city in the state and is often referred to as the northern capital. It was founded in 1806 by Col. Paterson and named by him after Governor King's native son in Cornwall, England. The right of self-government was granted in 1852. It became a fn. in 1858 and was declared a city in 1859. It is well laid out and has all modern utilities, such as electricity, gas, tram and bus services, filtered water supply, sewerage, beautiful parks, good theatres and excellent schools, modern crematorium and cemetery, a museum and art gallery and free library. It has made rapid strides in its industries, which include textile mills, pottery works, concrete and earthenware pipes manuf., tennis rackets and other sporting goods, brewery, timber mills, railway workshops. It is the terminus of the prin. steamship lines operating between Tasmania and the mainland of Australia. Agric. produce, fruit (principally apples), minerals, tin, beryl, wool, and woolen goods are the main exports of the port. Pop. (with suburbs) 40,400.

Launch (Malay *lanchar*, quick, speedy), name given to one of the largest size of ship's boats, or to a boat propelled by electricity or steam.

Launch, Motor, see MOTOR BOATS.

Laundries (Lat. *lavandus*, things to be washed, *lavare*, to wash), establs. for the washing of soiled body and table linen. Articles formerly rubbed by the hands of the laundress, or stirred and beaten with a 'dolly' (viz. a wooden rod with a series of spokes at the lower end and a cross-bar handle at the upper), are now commonly treated in rotary washing-machines driven by power. The best type of rotary consists of an outer cylinder of wood or metal containing an inner horizontal cylindrical cage, in which the clothes are placed. Then the doors are closed, the machinery is set in motion, and steam is admitted, the clothes being tumbled on each other in the soap and water contained in the outer casing, which enters the cylinder through perforations. The clothes are soaked in alkaline water, washed, boiled, and rinsed, all without

removing them from the machine. Next comes the process of drying. The linen is taken from the machine and placed in a washer or centrifugal extractor, which consists of a perforated copper basket revolving rapidly inside an iron or steel case. The water is thrown out through the perforations in the basket by centrifugal force and the linen is ready to be taken out in about twenty minutes, the drying being completed in an apartment through which dry air is forced by fans. The next item is the ironing. The ironing machines generally consist of a polished metal roller, heated by gas or steam, working against a felted surface in the form of another roller or flat table; or (Decoudun type) of a felted metal roller rotating against a heated concave bed of polished steel. Hand-ironing, notwithstanding, is still very general, and time is saved by continuously heating the irons by means of gas or electricity. In Great Britain L. are inspected by public health officials, and there are legal provisions on the hours of employment and the workers' conditions. See also DRYING MACHINES, and for home laundry work, under HOUSEWIFERY. See Agnes Jackman and B. Rogers, *Principles of Domestic and Institutional Laundrywork*, 1934; P. F. Jolly, and W. Burt, *Laundrywork*, 1934; and A. Harvey, *Laundry Chemistry*, 1935.

La Union (anct. *Herreria*), tn., Spain, prov. of Murcia, 6 m. E. of Cartagena. Iron, manganese, calamine, sulphur, silver, and lead are mined. Pop. 30,000.

Laura (*Λαῖα*, alley, possibly from Lat. *lura*, mouth of a bag), name given to a number of cells which were inhabited by ascetics or monks in the deserts of the E. St. Charito appears to be the first to have founded a L.

Lauraceae, order of dicotyledonous plants containing over 1000 species. They are all evergreen trees and shrubs, many are aromatic, and the climate they prefer is a temperate one. Two of the chief genera are *Cinnamomum* and *Laurus*.

Laurahutte, see SIEMIANOWICE.

Laureate, poet (Lat. *laureatus*, from *laurus*, the laurel-tree), title conferred by letters-patent from the Eng. Crown on the poet attached to the royal household. Its origin is obscure. In anct. Greece the laurel wreath was the crown of honour of poets and heroes, and thus the word laureate came to mean in Eng. eminent, generally, though not always, in a literary sense. The medieval kings had poets or minstrels attached to their households who received pensions, though the appointment was not official. In this way Ben Jonson was looked upon as the first L., but the title seems never to have been really conferred upon him, John Dryden being the first Eng. poet to receive the title by letters-patent in 1670. It is interesting in this connection to draw attention to the position of John Skelton, who, about 1500, seems to have been called P. L., or King's Orator, and insisted on being so called. He certainly was awarded by the univs. of Oxford and Cambridge the degree of L., a degree in grammar, including rhetoric and

versification, and at the award of which the graduate was presented with a laurel. In 1493, however, Skelton was granted the distinction of wearing a white and green dress with the name Calliope embroidered on it and he soon after became tutor to the future Henry VIII (see P. Henderson's ed. of Skelton's works, 1931). From Divden onwards the post became a regular institution, the most celebrated ts being

Laurent, Auguste (1807-53), Fr. chemist, b. near Langres, France. He is chiefly noted for his discoveries with Gerhardt in connection with the homologous series and the theory of types. He was appointed prof. of chem. at Boideaux in 1838, and warden of the mint, Paris, in 1848. L. did important research work on naphthalene, paraffin, and phenol.

Laurentia, see ACCA LAURENTIA



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LAURENTIAN SHIELD

Yellowknife on the Great Slave Lake, North west Territorys. The sparse coniferous forest, the large areas of bare rocks, the lakes in the glaciated landscape, are all typical of the region.

Souther (1813-43), Wordsworth (1843-1850), Tennyson (1850-92), and Alfred Austin (1896-1913). Dr Robert Bridges (1913) followed Austin, and the present holder of the title is John Masefield (q.v.), appointed 1936. The P. L. generally produces formal and appropriate verses on public and state occasions, though the custom at the present day is not obligatory.

Laurel, term properly applied to the two species of *Laurus*, the chief genus of Lauraceae, but it is also used in a compound name of other plants, e.g. cherry-L (*Prunus*), hawthorn-L (*Daphne*) and scabious-L (*Phyllanthus*). *L. nobilis*, the true L. or sweet bay, is to be found round the Mediterranean, and its aromatic leaves are used in condiments; *L. canariensis* is a native of the Canary Is.

Laurel, Cherry, or *Prunus laurocerasus*, species of Rosaceae, closely allied to the bird-cherry, almond, and plum. See CHERRY.

Laurencekirk, tn. in Kincardineshire, Scotland, 26 m. S.S.W. of Aberdeen. Pop. 2000.

Laurentian Rocks, vast series of pre-Cambrian rocks 30,000 ft. in thickness and covering an area of over 200,000 sq. m. in the highlands N. of the St. Lawrence estuary. They now rank as the undermost archaean rocks upon which an upper or Labradorian series rests unconformably. The L. group consists of an immense series of crystalline rocks, gneiss, quartzite, mica-schist and limestone, and is divided into Upper and Lower L. The Upper L., over 10,000 ft. thick, consists of stratified rocks, in which no organic remains have been found. The rocks are chiefly felspars, with a small percentage of potash and soda. The Lower L., about 20,000 ft. thick, consists mainly of a reddish gneiss, with orthoclase felspar, interstratified with thin hornblende- and mica-schists, with beds of usually crystalline origin, and others of plumbago. *Eozoon canadense* is the only known fossil or pseudo fossil. The L. R. of Ottawa and Argenteuil consist of dark greenstone or dolerite, varying from a few feet to 300 ft. in thickness. Sir R. Murchison

and Sir A. Geikie advanced the theory that a primitive land mass, called Laurentia, existed from Canada to the Scottish Hebrides, its shores receiving the earliest paleozoic sediments.

The L. R. area, known as the L. Shield, has a N.W. trend. Vast areas of Quebec, Ontario, and Manitoba remain bare rock, with numerous lakes.

'Laurentic,' auxiliary cruiser which was sunk off the Irish coast by a Ger. submarine or mine on Jan. 23, 1917. She carried a cargo of gold bars to the value of £6,000,000. £1,958,000 worth were recovered in one of the most successful salvage operations of recent years.

Laurentum, cap. of the anet. kingdom of Latium, Italy (*q.v.*). L. was made the chief tn. of the kingdom under Latinus, the first king. Later the cap. was changed to Lavinium, and again to Alba.

Lauria, city of Potenza prov., Italy, 42 m. S. of Potenza. It has an important textile industry. Pop. 11,000.

Laurier, Sir Henri Charles Wilfrid (1841-1919), Canadian Liberal statesman; b. at St. Lin near Montreal; only son of Charles L., Catholic and Fr.-Canadian land surveyor. He was educated at Assumption College and McGill Univ. He practised law for a while in Montreal, but ill health obliged his removal to Arthabaska, prov. of Quebec. He was not in favour with the higher clergy of his church, and his weekly paper, *Le Dériveur*, was banned. In 1871 he was elected to the prov. legislature for Drummond and Arthabaska cos., and from 1874 he represented the same constituency in the Dominion Parliament. He was minister for inland revenue in the Mackenzie Cabinet, 1877-78, but had to find another seat on his appointment at Quebec P., which he represented for the rest of his parl. life. In 1887 he succeeded Edward Blake as Liberal leader. His policy of unlimited reciprocity with the U.S.A. was not successful at the elections of March 1891, just before Sir John Macdonald's death. L. always favoured free trade; and in 1896 he won the elections against the tariff-maintenance policy of Sir Charles Tupper, and became Prime Minister. He remained so until 1911—visiting London and being knighted in 1897. After 1900 his gov. gave much aid to the Grand Trunk Pacific Railway and the Canadian N. Railway in order to develop the N.W. His sending of troops to aid the Brit. in S. Africa was not approved by his native prov., which was better pleased by his resistance, at the Imperial Conference of 1902, to Chamberlain's scheme of unified empire defence. He carried the general elections of 1900 and 1903, being hotly opposed by the nationalist leader Bourassa for 'supporting British Jingoism.' His once-popular policy of reciprocity with the U.S.A. was defeated at the elections of 1911, in which year he attended an Imperial conference for the last time. During the First World War Sir Robert Borden, the Conservative Premier, invited L. to form a coalition with him, but the invitation was declined. See O. D.

Skelton, *Life and Letters of Sir Wilfrid Laurier*, 1922.

Laurine, fatty principle of laurel berries; in appearance it is crystalline, and to the taste it is bitter.

Laurion, see ERGASTERIA.

Lauriston, Jacques Alexandre Bernard Law, Marquis de (1768-1828), general and ultimately marshal of France, b. in Pondichéry, India. He distinguished himself in the Republican army campaigns, becoming aide-de-camp to Napoleon in 1800. In 1802 Napoleon sent him to England with the ratified treaty of Amiens. He also went on diplomatic missions to Denmark and Russia. He commanded the rearguard in the retreat from Moscow.

Laurium, tn. in Houghton co., Michigan, U.S.A., 42 m. N. of L'Anse. Here is situated one of the largest copper-mines in the U.S.A. Pop. 4600.

Laurium, mt. in the S. of Attica, Greece. In anet. times its silver-mines produced large supplies, but were subsequently abandoned. During the second half of the nineteenth century, however, they were again worked, and silver, lead, cadmium, and manganese were found. There is a railway connection between these mine and Athens.

Laurvik, seaport in the prov. of Jarlsberg, Norway, standing on a fjord to the S.W. of Oslo. It is noted for its sea baths, while among its industries, are ship-building. It exports timber among other products. Pop. 10,000.

Lausanne, cap. of the canton of Vaud, Switzerland, on the N. shore of Lake Geneva. It has a very fine cathedral dating back to the thirteenth century, the restoration of which was completed in 1926, a univ., a museum of natural hist., and an art gallery. It is the seat of the Federal tribunal, and was the residence of Gibbon, who wrote part of his *Decline and Fall of the Roman Empire* here. It manufs. tobacco, machinery, and chocolate. Pop. 100,000.

Lausanne, Treaty of (1923), officially terminated the state of war between the Allies and Turkey by bringing to an end the difficulties outstanding between the Allies and the Angora Turks. Though Turkey surrendered unconditionally to the Allies in Oct. 1918, the Angora Turks declined to accept the treaty of Sévres, which mandated Smyrna to Greece, and made war on Greece (see GRECO-TURKISH WAR). After the evacuation of Smyrna a convention was signed between the Allies and Kemal Ataturk at Mudania, thereby availing further war (Oct. 1922). The Lausanne Conference between the Allies and the Kemalists began Nov. 20, 1922, the chief Brit. delegate being Lord Curzon, who was then foreign secretary, and dragged on to April 1923. The treaty, which was signed on July 24, 1923, ceded E. Thrace (including Adrianople) to Turkey, but took away from Turkey Palestine and Iraq, which were mandated to Great Britain, Syria, which was mandated to France, and also the rest of Arabia. The treaty left the N. frontier of Mesopotamia to be settled by later negotiation or, failing agreement, by

reference to the League of Nations. This matter was eventually settled by a tripartite treaty between Great Britain, Turkey, and Iraq signed at Ankara in June 1923. It also confirmed the possession of the Dodcanne (Dardanelles) and Gallipoli (Gallipoli) except Imbros and Tenedos formerly held by Turkey in the Aegean. All Turkish rights over Egypt, the Sudan and Cyprus were surrendered. But the most vital clause was that which concerned the straits. This clause guaranteed the freedom of the straits zones on each side of the Bosphorus and the sea of Marmora were demilitarised by special convention and rules were laid down for preserving the freedom of the straits in both peace and war. Such rules to be applied by a mixed commission of the League of Nations. But by the Montreux Convention 1936 Turkey regained the right to fortify the straits. For the rest the minorities clauses were similar to those of the Versailles and other first World War treaties. Turkey secured the abolition of the long standing capitulations or extra territorial privileges of foreigners (see CAPITALISMS) and ground notably at Ankara was ceded by Turkey for the purpose of military cemeteries. See H. W. V. Temperley, *History of the Peace Conference of Paris* (vol. vi), 1924. Earl of Ronaldshay, *Life of Lord Curzon* 1928-29 and H. N. Colson *Curzon the Last Phase* 1931-2-1934.

Lausitz, see LUSITANIA

Lava, substance which is emitted in a liquid state from the crater of a volcano. Lava is divided into different classes the quality of the lava depending on the amount of silica which it contains. Those which are known as 'basic' contain less silica than the others and consequently flow for much greater distances as they make much longer to solidify. The exterior or crust of a stream of lava cools quickly when exposed to the air and the molten lava which is underneath often cracks through this crust and continues its course thus disturbing the evenness of the original surface and forming loose blocks of material.

Lavadores, in the prov. of Pontevedra, Galicia Spain situated on the coast. Pop. 15,000.

Laval, Gilles de (c. 1375-1419)

Laval, Pierre (1853-1931) French politician and arch traitor to the Chetolm near Vichy, son of a butcher. Both his parents were of the poor peasant class with a strong first strain common in Auvergne. Laval began work as a school teacher in Auvergne but having gained a fortune in trade union circles as a militant socialist he went to Paris and became a lawyer. In 1908 he was elected mayor of Aubervilliers. In 1914 he was elected to the Chamber of Deputies supporting Jaures in his opposition to the three year period of military service. He went to his regiment at the front but was on the suspects list till 1918. Having failed in 1919 to secure election as a Socialist he stood again in 1921 but this time as a Moderate, and was successful. His progress was then rapid. In 1925 he was minister of public works under Painlevé, and after this his life becomes a self centred quest

for power and money. However often the French Gov changed Laval kept reappearing and he was Prime Minister in 1930-1931, 1932-1935 and 1936 and foreign minister for a time in 1934-1935 and 1936. Concurrently with this accession of power his private fortune grew enormously and he bought the historic castle of Chatillon, overlooking the tiny cottage where he was born and as his wealth increased, his left wing principles were forgotten. He was responsible with Sir Samuel Hoare for the abortive Hoare Laval plan for satisfying Mussolini's Ethiopian ambitions in 1935 and in 1936 he resigned to give way to Leon Blum after the left victory at the elections in that year. There is no doubt that his bitter hatred of Britain owed much to his frustration of his appeasement policy. When the Second World War came he began the underground intrigues so suited to his character but as every German conquest multiplied he became less discreet and began to sound various politicians on the feasibility of forming a French gov. to organise a truce with Mussolini and Franco and thereby to leave Britain to face Germany single handed. When France collapsed Laval was at once called into Léon Blum's Cabinet as minister of state and deputy Prime Minister. Laval's time in proving to Hitler that he was not too willing to collaborate for a time everything seemed to play into his hands and he even induced Léon Blum to nominate him as his successor in the event of his disappearance. He was appointed foreign minister, but Pétain's suspicions grew and the climax came on Dec. 11 1940 when he was suddenly dismissed and arrested. But the Gestapo soon secured his release and Laval fled to Vichy France to Paris. In August 1941 he and Marcel Déat the Fascist leader were shot at during a military ceremony at Versailles, but he had no sooner recovered from his injuries than he resumed his intrigues to regain power. Pétain who disliked Laval on personal grounds resisted all efforts to secure Laval's appointment but in April 1942 he had to yield to the German ultimatum and the Vichy Gov. was reconstituted with Laval as head. Laval then sought to undermine the remnants of Pétain's power and prestige. Laval made a bargain with Hitler to provide the conscripted labour for Germany as a result of which a great many Frenchmen were forced to go to the Reich. In Nov. 1942 Laval signed constitutional Acts giving the power to make laws and issue decrees on his signature alone. Thus at last Laval was dictator of France and like Hitler, above the law, and to strengthen his position he put himself at the head of a national militia or private army 10,000 strong. But by the spring of 1944 though he still spoke of the German Army as 'unbeatable' he had begun to realise that he had backed the losing side and when the Allies occupied Paris he found himself on the run. He fled to Germany and was soon afterwards sentenced to death in his absence by a Mannheim court of justice. In his frantic struggle to save himself when

Germany collapsed he fled by aeroplane to Spain, but after a long delay Franco's hand was forced and L. had to surrender himself into Fr. hands. After that the end was inevitable. He was again put on trial, this time in the high court in Paris, before three judges and twenty-four assessors, and found guilty on all the main charges preferred against him—conspiracy against the security of the State, collaboration with the enemy, and armed action against the Fr. resistance movement—and condemned to death (Oct. 9, 1945). On the morning of the day of his execution he tried to take his own life by poison but was not successful, and soon afterwards met his fate before a firing squad (Oct. 15), dying with calm and courage. There can be no doubt of the absolute justice of his sentence, despite his efforts to cover his traces in a detailed defence which he left for pub. after his death—for he refused to remain in the court. In this 'defence' he paid a warm tribute to Britain and her statesmen, denied that he ever hated that country, declared that the policy of collaboration was engineered at Montolieu between Hitler and Pétain, and averred that in 1941 Darlan, then in power, went to Hitler to confer on an extensive scheme for a real alliance with Germany. See *The Unpublished Diary of Pierre Laval*, 1948.

Laval, cap. of the dept. of Mayenne, France, on the Mayenne, 45 m. E. of Rennes. It possesses a castle and cathedral. It is also engaged in the manu. of linen and cloth. Pop. 32,660.

Lavalleja, inland dept. of Uruguay (cap. Minas). It is chiefly an agric. region, producing wheat, maize, linseed, and oats. Area 4819 sq. m. Pop. 115,800.

La Vallière, Françoise Louise de Lebaume Le Blanc, Duchesse de (1611-1710), famous mistress of Louis XIV. When Athénais de Montespan became a royal favourite La V. retired to a Carmelite nunnery in Paris, where she lived the remaining thirty years of her life. She pub. *Réflexions sur la miséricorde de Dieu par une dame pénitente* (1680). See G. Basset d'Auriac, *Les Deux Pénitences de Louise de la Vallière*, 1924; also lives by A. Houssaye, 1860; J. Lalr, 1891 (Eng. trans., 1908); and J. Châtel, 1912.

Laval-Montmorency, François Xavier de (1622-1708), Fr.-Canadian bishop, native of Laval. Ordained priest in 1647, he became archdeacon of Evreux, France. He went (1659) to Canada as vicar apostolic of New France and titular bishop of Petrua. His authority being contested by the archdeacon of Rouen, the pope made L. first bishop of Quebec (1674) and immediately responsible to Rome. A great educationist, L. founded the seminary of Quebec (1663), a junior seminary (1668), and an industrial school (1678). He resigned in 1688, but returned to Canada to work under his successor. Laval Univ. (Quebec) is named after him.

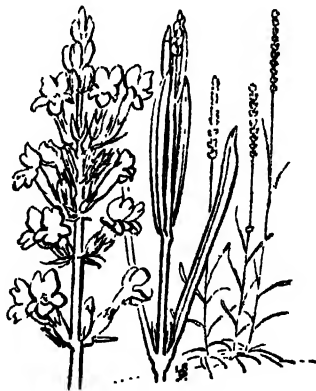
Laval University, Fr. Catholic institution, founded in 1852 at Quebec, Canada, and maintained by the Quebec Seminary. By a papal bull of 1876 its constitution was extended; it is under the supervision

of the cardinal prefect of the propaganda at Rome, and is controlled by a council composed of the archbishops and bishops of the prov. of Quebec. There are faculties of theology, law, medicine, and arts, and the usual degrees are conferred.

Lavater, Johann Kaspar (1741-1801), Swiss Protestant clergyman and writer, native of Zurich. After finishing his education he took orders in the Protestant Church in 1762 and was afterwards appointed to the church of St. Peter. He had before this, however, begun his career as a writer by a book of Swiss poems called *Schweizerlieder* (1767). His other works are *Aussichten in die Ewigkeit* (1768-78) and *Physiognomische Fragmente zur Beförderung der Menschenkenntnis und Menschenliebe* (1775-78), the latter being his great work on physiognomy. A selection of his works was ed. in 1913 by E. Stahelin. See studies by O. Guinand, 1924; C. Janetzky, 1928; O. Farner, 1938; and T. Hasler, 1942.

Lavaur, tn. in the dept. of Tarn, France, situated on the Agout, 25 m. E. by N. of Toulouse. It is engaged in the silk manu., and possesses a thirteenth-century cathedral. Pop. 6000.

Laveld, see LAWFELT.



LAVENDER

Lavender, name given to the various species of the labiate genus *Lavandula*, which consists of hoary, narrow-leaved, fragrant bushes, inhabiting S. Europe, the Canaries, Barbary, Egypt, Persia, and W. India. The flowers are generally blue and yield much honey to bees. *L. vera*, the common L., and *L. spica*, the spike L., are the two best known species, and yield the oil used in the manu. of L. water.

Lavenham, vil. of Suffolk, England, 10 m. S. of Bury St. Edmunds. In the sixteenth century L. was a noted woollen tn., and it is perhaps the finest example of such a tn. still existing. Its par. church is an excellent example of the late Perpendicular style; there are streets of timbered

houses and a pre-sixteenth-century guild hall, scheduled for restoration.

La Verendrye, Pierre Gaultier de (1690?-1743?), Canadian explorer, b. at Three Rivers. Serving as a soldier he was wounded at Malplaquet. Prompted by an Indian's tale, he set out for the W. with three sons in 1731, starting from Montreal and Lake Superior. He reached Lake Winnipeg, but had to return to Montreal to be examined by his financial helpers. He returned to establish Fort Rouge (Winnipeg) and Fort La Reine (Portage la Prairie). In the winter of 1738 he set out S. westwards from Fort la Reine and reached the Missouri R., suffering great hardships on the return journey. Two of his sons then began exploring alone, and on Jan. 1, 1743, sighted the Rocky Mts. To La V. and his sons is due the credit for opening up the great W. plains. See A. C. Lant, *Pathfinders of the West*, 1904, and G. Dugas, *The Canadian West, and its Discovery by De La Verendrye* (trans.), 1905.

Lavery, Sir John (1837-1941), portrait painter, native of Belfast, Ireland. Studied in Paris and, about 1881, became acquainted with Sir James Guthrie and the 'Glasgow School' of artists. He rapidly made a name for himself and received many official commissions; but it was in his smaller studies of interiors with figures, such as those of 'The House of Lords' and 'The House of Commons,' and impressions of jockeys in the weighing-room, that he showed his more characteristic powers. Among his best portraits are those of Lord Melchett and Mr. Cunningham (Graham and (for the National Gallery of Ireland) of Arthur Griffith and Michael Collins. In 1883 his 'Two Fishers' was exhibited in the New Salon, and 'The Tennis Party' (Munich Pinakothek) at the Royal Academy, 1887. Among his other best known works are 'Mother and Son,' 'White Feather,' 'A Lady in Black,' 'The Visit of Queen Victoria to the Glasgow Exhibition' (1888) is hung in the Glasgow Gallery. He was commissioned by the Free State (now Eire) Gov. to design the first currency notes in that country. Knighted, 1918. R.A., 1921. He wrote *The Life of a Painter* (autobiography, 1940). See W. S. Sparrow, *John Lavery and his World*, 1911.

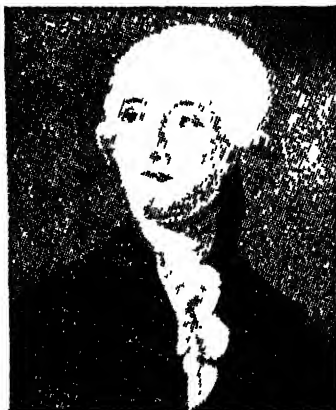
La Villemarqué, Théodore Claude Henri Hersart, Vicomte de (1815-95), Fr. scholar, b. at Quimperle. One of his earliest works was a collection of Breton songs, *Barzaz Breiz*, 1839. Among his other works are *contes populaires des anciens Bretons* (1842); *Poèmes des bardes bretons* (1850); and *Poèmes bretons du moyen-âge* (1850). He also ed. *Dictionnaire français-breton* (1857).

Lavinium, old Rom. tn. of Latium, Italy, 16 m. S.E. of Rome. In the time of the Emperor Trajan Laurentum was united with L. The modern tn. on the site is called Pratica.

Lavisse, Ernest (1842-1922), Fr. historian. He was prof. of modern hist. at Paris in 1888 and elected a member of the Fr. Academy in 1892. From 1904 to 1919 he was director of the École

normale supérieure. Among his works are *Études sur l'histoire de la Prusse* (1879); *Trois empereurs d'Allemagne* (1888); *La Jeunesse du grand Frédéric* (1891); *Histoire de France depuis les origines jusqu'à la Révolution* (1900); and in collaboration with A. N. Rambaud, *Histoire générale du V^e siècle à nos jours* (1893-1901).

Lavoisier, Antoine Laurent (1743-94), Fr. chemist. He was b. in Paris of a wealthy family, his father being an advocate and his mother the daughter of an advocate; but he was brought up by his maternal grandmother. He was educated at the Mazarin College, then notable for its excellent teaching in science. At



ANTOINE LAURENT LAVOISIER

Engraving after a painting by J. L. David.

first he was most drawn to mathematics and meteorology and assisted his geological teacher, Guettard, in a survey for a geological map of France. Later he carried out much work for the Fr. Gov. In 1788 he became a member of the Royal Academy of Science, though he had not yet done any scientific work of real importance, and shortly afterwards he was appointed one of the *fermiers-général*s and commissioner of powder to the Fr. Gov. His chief theories and discoveries relate to the nature of the atmosphere and the process of combustion; he showed that combustion was the union of the burning substance with atmospheric oxygen. L. also discovered the composition of water independently, or partly so, of Cavendish and Watt, and to him is due in large measure the modern system of chemical nomenclature. In his famous work, *Traité élémentaire de chimie* (1789) he gave chem. its modern form, and indeed his great services to chem. have tended to obscure his achievements in other fields; for living in the age of the Encyclopédistes his natural ambition and curiosity took him into many fields of inquiry, and the

six great vols. of his writings, collected under the auspices of the Royal Academy of Science between 1864 and 1893, are largely devoted to his many investigations in applied science; and the fact of their pub. by the academy illustrates the prevalent and doubtless sound idea that it was a matter of public importance to have existing knowledge summarised and rationalised for the public benefit. In his researches in chem. he soon hit on combustion as the outstanding problem to be solved; and the explanation that combustion and calcination consist in the union of the combustible or metal with oxygen, though strongly opposed by older chemists, soon gained acceptance after the pub. of J.'s *Traité* and no less rapidly in Germany, the home of the old phlogiston doctrine. L. explains the appearance of heat and light, or fire, in combustion, by assuming the existence of imponderable elements, caloric and light, which bore a strong resemblance to the old phlogiston. Chemists had universally accepted a theory that things burn because they contain inflammable principle called phlogiston. L.'s experiments showed him that phosphorus and sulphur increased in weight during burning. The experiment of Cavendish in the formation of water from hydrogen and oxygen (pub. 1781) enabled L. to complete his so-called anti-phlogistic theory and played an important part in leading to its acceptance. Cavendish's discovery in 1783 that water was formed when inflammable air from metals was burnt with oxygen gave L. the clue he needed and he named the inflammable air hydrogen, or water-producer. Thus if the vital clue came from England--from Priestley and Cavendish in particular--it was L. who interpreted their work and grasped its wider implications. L.'s surmise that the earths are oxides of unknown metals received striking confirmation in Davy's isolation of the alkali and alkaline earth metals in 1807-8. During the revolution L. continued to work for the State, but he was soon attacked by Marat, whose theory of fire had been unfavourably criticised by L. In the end no more could he charge against him than that he had, as a *fermier*, adulterated tobacco with water, and on that petty accusation the great Frenchman was condemned and, on May 8, 1791, guillotined. In 1795 his property, previously confiscated, was restored to Mme L.--it was in 1791 that he married the beautiful and accomplished Marie Anne Paulze, daughter of a member of the *ferme* and then only fourteen. She helped him in his researches and the illustrations in his *Traité* are from her drawings. Some time after his death she married the Amer. scientist, Benjamin Rumford, but this second marriage proved unhappy. See lives by E. Grimaux, 1895; J. A. Cochrane, 1931; and D. McKie, 1938.

Lavoro, Terra di, part of Italy now forming the prov. of Caserta (q.v.).

Lavos, tn. in Beira, Portugal, on the Mondego R., and about 24 m. S.W. of Coimbra. Pop. 6000.

Law, Andrew Bonar (1858-1923), Brit. Conservative statesman; b. Sept. 16 in New Brunswick, Canada; son of Rev. James L., Presbyterian minister. Educated New Brunswick; Gilbertfield School, Hamilton; High School, Glasgow. Entered iron merchant's business in Glasgow. At one time chairman of the Glasgow Iron Trade Association. In 1900 retired from business and entered Parliament as member for the Blackfriars div. of Glasgow. From the first he was remarkable for his ability to speak without notes. In 1902 he became parl. secretary to the board of trade. He was the most enthusiastic supporter of 'Tariff Reform' left in the industry when Joseph Chamberlain resigned. Defeated in Glasgow, 1906, he was returned almost immediately afterwards for Dulwich. At the second general election of 1910 he deserted Dulwich and lost at N.W. Manchester. From 1911 till 1918 he represented Borth. On Balfour's resignation of the Conservative leadership, 1911, L. was selected to succeed him as the only means of reconciling the supporters of Walter Long with those of Austen Chamberlain. Before the First World War he was one of those who advocated resistance by Ulster to Home Rule. In 1915 he joined Asquith's War Coalition as colonial secretary, and he carried the Compulsory Service Bill through the Commons. He originated and took part in the Economic Conference of the Allies, 1916, and he supported Lloyd George for the premiership. In 1916-18 he was chancellor of the exchequer, member of the War Cabinet, and leader of the Commons. In 1917 he announced the gov.'s acceptance of the principle of imperial preference. He signed the treaty of Versailles, 1919, and had much to do with the shaping of the last Irish Home Rule Act (which never operated). From 1918 until his death he represented Central Glasgow. Lord privy seal, 1919-21; taken ill, resigned. Recuperated, and, when Coalition fell in Oct. 1922, became Prime Minister. Failing health caused him to resign May 20 following. He d. in London, Oct. 30, and was buried in Westminster Abbey.

Law, Edmund (1703-87), bishop of Carlisle. In 1743 he became archdeacon of Carlisle, and returned to Cambridge in 1756 as master of Peterhouse; he was appointed librarian to the univ. in 1760 and Knightbridge prof. of moral philosophy in 1761. He became bishop of Carlisle in 1768 and was an earnest student of Locke, whose works he ed. in 1777. His own most important philosophical work is *Considerations on the State of the World with regard to the Theory of Religion* (1745).

Law, Edward, see ELLENBOROUGH, BARON.

Law, John (1671-1729), originator of the Mississippi scheme, was b. at Edinburgh. Having killed his antagonist in a duel, he fled to Holland in 1694, where he studied banking. After a few years returned to Scotland and in 1700 proposed to the Scottish Parliament a system of paper currency. In 1716 he set up a

private bank in Paris, and soon afterwards persuaded the regent to found a national bank, which issued banknotes and raised the credit of the gov. His Mississippi scheme, which was at first enormously popular, proved a disastrous failure and L fled from Paris in 1720 and died in poverty at Venice. He wrote *Money and Trade* (1705) and *Lettres sur le nouveau système des finances* (1720). See *Thurs*, *Lau et son système des finances* 1826. A. W. Winstanley, *John Law of Lauriston* 1907, G. Goudard, *La vie de Curieuse Vie de Law* 1927, and H. Montgomerie Hyde, *The Amazing Story of John Law*, 1948.

Law, William (1686-1761) Eng. divine b. at Kingscliffe in Northamptonshire. In 1711 he was ordained and elected fellow of Emmanuel College, Cambridge, but on the accession of George I. being unable to take the oath of allegiance he forfeited his fellowship and became a nonjuror. About 1721 he became private tutor to Edward Gibbon, father of the historian. After the death of Edward Gibbon (1757) L. retired to Kingscliffe where he was joined by Mrs. Hutchinson a widow and Miss Heaster Gibbon who devoted themselves to charitable works and holy meditation. L. was a keen dialectician. His controversial writings include *Three Letters to the Bishop of Bathurst* (1717), *Remarks on Manducell's Faith of the Jews* (1723) (republished by J. D. Munk 1844), and *Case of Isaac* (1752) written in reply to Tindal's *Christianity as old as the Creation*. His *Treatise of Christian Perfection* (1726) and the *Serious Call to a Devout and Holy Life* (1721) which had a profound influence on the leaders of the Evangelical revival and moved Dr. Johnson and Lord Lyttelton and Gibbon, still remain the most popular of L.'s works. The influence of Jacob Boehme is seen in the mysticism of his later works *The Spirit of Prayer* (1741), 1752, *The Way to Divine Knowledge* (1752), and *The Spirit of Love* (1752, 1754). A list of his works was pub. in 9 vols. (1772-76) and an ed. by G. B. Morgan in 1893. See C. Walton, *Notes and Materials for a Complete Biography of W. Law*, 1818, J. H. Overton *William Law: Nonjuror and Mystic*, 1881, A. Whyte, *Character and Characteristics of William Law*, 1894, K. Minkner *Die Stufenfolge des mystischen Lebens bei William Law* 1939, and H. Pallen *William Law: a Neglected Master of English Prose*, 1943.

Law. Two ideas may be said to be connoted by the term L. (1) command (2) order. The former is implicit in the body of principles observed and acted upon by the State in the administration of justice. The Eng. school of analytical jurists of which Austin was the head, defines positive L. as a command imposed upon an inferior by a superior. Modern thought regarding sovereignty, as inherent in the people and gov. as resting purely on consent, denies the validity of this definition, and perhaps the following definition by Prof. Holland is more in accordance with fact. 'Law in general is the sum total of those general

rules of action as are enforced by a sovereign political authority' (see on this *Legislation, Jurisprudence*). The continental jurists regard positive L. (*positus* i.e. settled by man) as only a narrow species of L. proper and when talking of L. in the abstract devote into selective conceptions of rights and justice, giving to morality a positive force disguised under the name of natural L. The connotation of order is uppermost in ancient nomology (Gk. νόμος, law). Classical jurists and philosophers, observing an inevitable sequence in the operations of nature, referred that sequence to the will of some anthropomorphic deity, then later when they abandoned the notion of a supreme lawgiver to activities of a universe moving according to L. They either recognized no separation of varied phenomena into physics, theology, ethics and jurisprudence, but divided everything to be of divine contrivance, the later distinguished between sciences relating to external nature and those relating to human activities, but L. was the common term, denoting in the one the method of the phenomena of the universe, in the other the abstract idea of rules regulating the actions of mankind.

In the development of a system of L. much was achieved by medieval lawyers. As far as England and N. Europe were concerned, Roman civilization at the beginning of the Middle Ages lay in ruins. Successive waves of barbarians had introduced new races whose invasions had brought social and political collapse and economic chaos. Yet by the close of the Middle Ages L. had become a science with a massive literature, a precise technique and a succession of eminent men all over Europe who devoted great skill to the solution of legal problems. This great revolution which gave us rational L. instead of the primitive folklore which characterized the Dark Ages, was for the most part a slow and gradual process, although sometimes a decisive step was taken as for example, when Pope Innocent III by a single decree in 1215 condemned the use of trial by ordeal. One of the chief means by which medieval lawyers achieved the new rational outlook was through the Church, with its deep roots in the Roman tradition, particularly when the full heritage of Roman L. came to the hands of medieval scholars with the recovery of the text of the *Institutes, Digests and Novels* of Justinian. In some places there was an unhesitating replacement of crude old L. by the new scientific Roman learning, sometimes the native system as in England, resisted so drastic and hasty a remedy, but even unromanised England, like other countries, regarded her own L. as a rational study, to be expressed in precise technical language, in orderly treatises fit to take a place beside those of logicians and philosophers, as was recognised by Bracton (qv). Another means by which L. was developed by the lawyers of the Middle Ages was through custom, and in no sphere of L. was this more evident than in the L. merchant (qv). In making L. rational,

therefore, the medieval lawyer based it firmly in the midst of the reasonable order of things, which had all been designed for an end. That philosophy of L. was trans. into personal and imperative terms by religion, and from the Rom. texts these lawyers constructed systems of L. which prevail to-day, not only in continental Europe, but also in Scotland and S. Africa, in Japan and Lat. America' (T. F. T. Plucknett).

L., in the sense of a general rule of external human action enforced by a sovereign political authority, and enforced by 'sanctions,' has its source in legislation by statute or other ordinance of the sovereign authority, or in precedent (Bentham's 'judge-made' L.). Equity is, in effect, a form of L. by judicial decisions (*see* EQUITY). The 'Common Law' of England is the resultant of the development of a body of principles based on past decisions in particular cases (*see* COMMON LAW). The volume of Statute Law in Great Britain, as in other countries, has grown enormously in recent years, especially in the shape of comprehensive codifying Acts, and is supplemented constantly by orders-in-council and by-laws.

A practical div. of the field covered by the *corpus juris* of a state is that into (1) private L., further divided into civil L. and criminal L. (for civil L. *see* ROMAN LAW) which, in their turn, are subdivided into substantive L., or rights and duties, and 'procedure' (adjective L.), or remedies; and there are still other divs. into 'property' (real and personal), 'obligations' (contractual relationships, torts or actionable wrongs, etc.), and 'status' (e.g. the L. of husband and wife, master and servant, etc.); and (2) public L.—i.e. constitutional L. and administrative L. By public L. is meant not the whole of the L. that is applicable to the state and to its relations with its subjects, but only those parts of it which are different from the private L. concerning the subjects and their relations to each other. Administrative L. is concerned with the forms and instruments in and through which the lower ranges of governmental activity manifest themselves.

Most questions which arise for determination in a L. court are questions of L. or of fact, meaning by the former a question as to what is the L. on a particular point: questions of fact, where there is a jury, are for its decision; questions of L. are for the court to decide. *See also* INTERNATIONAL LAW; JURISPRUDENCE; JUS GENTIUM.

See J. Bentham, *Traité de législation*, 1830; J. Austin, *Jurisprudence*, 1869; T. E. Holland, *Jurisprudence*, 1880; I. Kant, *Philosophy of Law*, 1887; Sir F. Pollock and E. Maitland, *History of English Law*, 1895; Sir F. Pollock, *Essays in the Law*, 1920; W. S. Holdsworth, *History of English Law*, 1922-38; T. F. T. Plucknett, *Concise History of Common Law*, 1936; Sir H. Slosser, *The Administration of the Law*, 1940; and K. Renner, *The Institutions of Private Law and their Social Functions*, 1949.

Law Courts, *see* COUNTY COURTS; COURT OF SESSION; ROYAL COURTS OF JUSTICE; SUPREME COURT OF JUDICATURE, etc.

Law, Degrees in, *see under* LEGAL EDUCATION.

Lawman, *see* LAYMAN.

Lawes, Henry (c. 1586-1662), Eng. composer, b. at Dilton, Wiltshire, was a pupil of Coperario, and in 1626 became a gentleman of the chapel. In 1633 he, with Simon Ives, wrote the music for a masque which was played at Whitehall, and in the next year composed the music for Milton's *Comus*. He wrote, among other works, *Choice Psalms put into Music for Three Voices* (1648).

Lawes, Sir John Bennet (1814-1900), Eng. agriculturist, was educated at Eton and Brasenose College, Oxford, and after spending some time in the study of chemistry began in 1831 a regular system of agricultural experiments. These he carried on at Rothamsted, on the family estate. He was assisted in his efforts, both literary and agricultural, by Dr. Gilbert. Their joint work on artificial manures revolutionised agric. practices, and has been carried on since their time at Rothamsted, which is now a state experimental station.

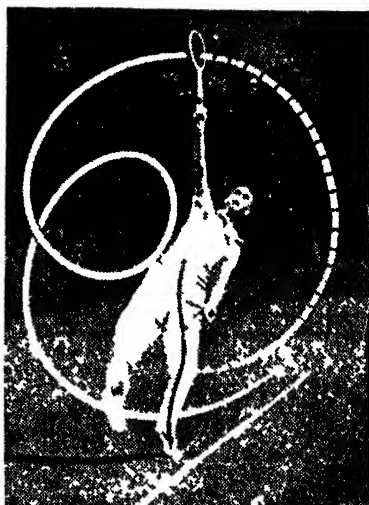
Lawfeldt, or **Laveld**, vil. of Belgium situated near Maastricht, in the prov. of Limbourg. Here in 1747 the duke of Cumberland was defeated by the Fr.

Law Lords, those members of the Brit. House of Lords who act as lords of appeal. The body comprises nine lords of appeal in ordinary, with a salary of £6000 a year, either former judges or law officers of the Crown. To these are joined the lord chancellor and any peers who have formerly held high judicial office or have been lord chancellor. The nine ordinary lords are made peers for life on appointment. *See* WENSLEYDALE PEERAGE.

Law Merchant. The L. M., or *Lex mercatoria*, was developed in the Rom. Empire and was that part of the Law of Nations (*see* JUS GENTIUM) which regulated the affairs of commerce. In England it was largely rooted in mercantile customs and administered by special courts outside the jurisdiction of the common law. Under the celebrated Chief Justice Lord Mansfield (q.v.) the special courts gave place to the common law courts, and the floating customs of the L. M. were crystallised into a system and incorporated into the body of the common law. Eng. mercantile law (the term L. M. is never used at the present day) no longer pays any regard to international customs, relying solely on Eng. trade usage. Any fresh custom which satisfies certain conditions will become part of the law, e.g. certain instruments may by custom become negotiable (*see* CUSTOMS and MERCANTILE LAW).

Lawn, a fine lawn (q.v.).

Lawn, close-mown, turf-covered plot, usually in a garden. The Eng. climate is specially favourable for the cultivation of a good L. Grass has now quite superseded the canonilla Ls. popular in Shakespeare's day. Though the seed is



THE SERVICE

The first photograph shows the correct sideways position, the flexing of the knees, and the transference of weight to the forward foot as the racket swings towards the ball. The second photograph shows the moment of impact in which the weight of the server still completely on the forward foot.

expensive camomile is very attractive and excels grass on poor soils and in drought. A grass L may be made by sowing seed in Sept or April or by laying turf between Oct and March. By laying turves evenly and closely on a firm bed and beating them thoroughly a fine L can be had in a few weeks. To make a L from seed naturally takes considerably longer. The land should be perfectly level and be properly drained and it is most important that the soil be well prepared. It is best to do the work early in Sept., first digging the whole plot, then applying a dressing of manure, humus or hop manure and crumbling and treading the soil until it is quite fine. The seed should be sown thickly—1½ lb or even more to the square rod, then lightly raked and protected from birds. The best possible grass seed should be obtained but even so weeds are likely to appear and it is best to remove them at once. The prin rolling should be done in spring and mowing will probably be needed at least once a week from April to Oct. Young fine grass can be encouraged by feeding with a good complete L manure during showery weather every few weeks. See L. G. Lewis, *Lurf*, 1949.

Lawn Tennis is one of the most popular games of the twentieth century. It originated from such games as racquets and tennis, the idea being to play the game on any large level piece of turf, without the need of a costly built wall. The game is played by two or four persons with racquets and ball across a net stretched over

a court. It is in out of door summer game and may be played on a grass lawn, on asphalt, cinders or gravel. In winter the game may be played indoors on a covered court. The court must be kept perfectly smooth and firm and is marked with right hand and left hand courts and a service line. A court should be 78 ft long and 36 ft wide for a double game, 27 ft for a single handed game. The height of the net in the centre is 3 ft. The ball is not less than 2½ in in diameter nor more than 2 in and not less than 2 oz in weight nor more than 2 oz. In a single handed game the server must stand behind the base line, beginning the game from the right hand court and afterwards serving from alternate courts. He must serve the ball diagonally across the court so that it falls within his opponent's service court or upon the lines enclosing the service court. If the ball touches the net, the server otherwise fulfilling the above conditions, it is counted as a 'let' and the server serves again from the same court. If the server fails to fulfil any of the above conditions the service is a 'fault'. Two faults count a point to the opponent. If the first service however, fulfils the required conditions it 'counts', the server may not serve again and his opponent or the 'striker-out' must hit back the ball after the first bounce. Afterwards the ball may be volleyed on either side, or it may be hit after it has touched the ground once. If either player fails to hit the ball over the net, or only hits it after the second bounce, or hits it



FORWARD DRIVE AND BACKHAND VOLLEY

The first photograph shows the correct position of the feet and drive horizontal racket toes point to the sidelines and the shoulder is the net. The low backhand volley shows the knees well flexed and the racket held above wrist level. Photographs by courtesy of the Dunlop Sports Company

so that it falls outside his opponent's bounding lines his opponent wins a point. In a four handed game the service is taken alternately by the two opponents who keep to the same side of the court to receive the service. The service is arranged so that each player serves one game out of four, thus if A and B play C and D the order of service is A C B D.

The Method of Scoring. A player on winning his first point counts 1; on his second 30; on his third 40; if he wins a fifth stroke before his opponent has reached further than 30 the game is his. If however both players have won three strokes the score is 'deuce'. Whoever wins the next stroke is scored 'advantage'. If he is giving 'advantage' out if he is the striker out. The game is not completed until one player has won two points in succession after 'deuce'. The player who first wins six games wins a set. The increased speed of play is one of the most marked developments of L. T. in recent years. There are some L. T. professionals who are chiefly cricketers, many of whom belong to Queen's Club London but L. T. has remained almost entirely in amateur game. The British L. T. championships are played off at Wimbledon at the All England L. T. and Croquet Club which was founded towards the end of the last century. This famous club still keeps its status as a private club, although it has moved and enlarged its grounds.

Service. The server stands to the right or left of the centre line (according into which court he is serving). The ball should be thrown four or five feet up and about one foot in front of the hitting shoulder. The hit should then be made with arm and racket at full stretch, care being taken that the foot opposite to the striking arm is behind the base line and in contact with the ground until the hit is completed. The perfect service combines high speed with accuracy of placing.

Strikes. Other basic strokes are the forehand and backhand drive and the forehand and backhand low volley. In the forehand drive the hitting arm is extended fully, in line with the shoulder and swung across the body over the opposite shoulder. The weight should be allowed to follow it naturally without muscular tension. To avoid this it is well slightly to bend both knees rising as the weight carries one on to the balls of the feet. In the backhand drive the hitting arm is carried across the body upwards towards the opposite shoulder and back again across the line of the stomach but rising to finish level with the hitting shoulder. Both forehand and backhand low volleys are made in a more or less crouching position. The latter is simply the reverse of the former, the hitting arm is not swung across the body and there is little movement of the feet. For particulars of advanced strokes (arm spin, chop, etc.) the bibliography of the game should be consulted.

Tactics will largely depend upon the class of game played, men's or women's singles or doubles or mixed doubles. The following three general rules however, are indispensable to the successful player at all times and in all circumstances. (1) Learn to attack with an all court game, relying upon winning shots rather than upon the mistakes of an opponent. (2) Try to find out as quickly as possible an opponent's peculiarities, what are his best and weakest shots, and generally what kind of game needs to be played in order to defeat his efforts. (3) Concentration upon the game from start to finish to the exclusion of all distractions and annoyances. Broadly speaking, in the singles game the aim is to secure a good length drive. This not only is more difficult to return, but gives one time to come up to the volleying position from which it is easiest to produce decisive shots. In

doubles the return of service is probably the most important shot.

Practice.—A practice wall with a net-high line chalked or painted on it is an excellent means of improving ground shots and teaching correct stroke-making. For practice of service much benefit can be derived from 15 min. serving from alternate ends into alternate courts of a vacant court. A player may also use a friendly match to improve his defects rather than with a view to beating his opponent; and watching an expert player will perhaps prove the best of all methods of learning the game.

The winners of the All-England Championship since the opening year (1877) are S. W. Gore, 1877; P. F. Hadow, 1878; J. T. Hartley, 1879-80; W. Renshaw, 1881-86, 1888-89; H. F. Lawford, 1887; W. J. Hamilton, 1890; W. Baddeley, 1891-92, 1895; J. Pim, 1893-94; H. S. Mahony, 1896; R. F. Doherty, 1897-1900; A. W. Gore, 1901, 1908-9; H. L. Doherty, 1902-6; N. E. Brookes, 1907, 1914; A. F. Wilding, 1910-13; (no competition 1915-1918); G. L. Patterson (Australia), 1919, 1922; W. T. Tilden (U.S.A.), 1920-21, 1930; W. M. Johnston, 1923; J. Borotra (France), 1924, 1926; R. Lacoste (France), 1925, 1928; H. Cochet (France), 1927, 1929; S. B. Wood (U.S.A.), walk-over, 1931; H. Ellsworth Vines (U.S.A.), 1932; J. Crawford (Australia), 1933; F. J. Perry, 1934-36; J. D. Budge (U.S.A.), 1937-38; R. L. Riggs (U.S.A.), 1939; Y. Petra (France), 1946; J. Kramer (U.S.A.), 1947; R. Falkenburg (U.S.A.), 1948; F. Schroeder (U.S.A.), 1949.

Women Champions.—Miss Maud Watson, 1884-85; Miss Bridget, 1886; Miss L. Dod, 1887-88, 1891-93; Mrs. Hildard, 1889, 1894, 1897, 1899, 1900; Miss Rice, 1890; Miss C. Cooper, 1895-96, 1898; Mrs. Sterry, 1901, 1908; Miss M. E. Robb, 1902; Miss D. K. Douglass, 1903-4, 1906; Miss M. Sutton, 1905, 1907; Miss D. Boothby, 1909; Mrs. Lambert Chambers, 1910-11, 1913-14; Mrs. Larcombe, 1912; (no competition 1915-18); Mlle Lenglen (France), 1919-23, 1925; Mrs. L. A. Godfree, 1924, 1926; Miss H. Wills (U.S.A.), 1927-30; Frl. O. Aussem (Germany), 1931; Mrs. H. Wills Moody (Miss H. Wills), 1932-33, 1935, 1938; Miss D. Round, 1934, 1937; Miss H. Jacobs (U.S.A.), 1936; Miss A. Marble (U.S.A.), 1939; Miss P. Betz (U.S.A.), 1946; Miss M. Osborne (U.S.A.), 1947; Miss L. Brough (U.S.A.), 1948-49.

Men's Doubles. (from 1897).—R. F. Doherty and H. L. Doherty, 1897-1901, 1903-5; S. H. Smith and F. L. Riseley, 1902, 1906; N. E. Brookes and A. F. Wilding, 1907; A. F. Brookes and M. J. G. Ritchie, 1908; A. W. Gore and H. Roper Barrett, 1909; A. F. Wilding and M. J. G. Ritchie, 1910; M. Decugis and A. H. Gobert (France), 1911; H. Roper Barrett and C. P. Dixon, 1912-13; N. E. Brookes and A. F. Wilding, 1914; (no competition 1915-18); R. V. Thomas and R. O'Hara Wood, 1919; R. N. Williams and C. S. Garland, 1920; R. Lycett and M. Woosnam, 1921; R. Lycett and J. O. Anderson, 1922-23; V. Richards and F. T. Hunter

(U.S.A.), 1924; J. Borotra and R. Lacoste (France), 1925; H. Cochet and J. Brugnon (France), 1926; W. T. Tilden and F. T. Hunter (U.S.A.), 1927; H. Cochet and J. Brugnon (France), 1928; W. Allison and J. van Ryan (U.S.A.), 1929; W. Allison and J. van Ryan (U.S.A.), 1930; G. M. Lott and J. van Ryan (U.S.A.), 1931; J. Borotra and J. Brugnon (France), 1932-33; G. Lott and L. Stoeffen (U.S.A.), 1934; J. H. Crawford and A. K. Quist (Australia), 1935; G. P. Hughes and R. Tuckey, 1936; J. D. Budge and G. Mako (U.S.A.), 1937-38; E. T. Cooke and R. L. Riggs (U.S.A.), 1939; T. Brown and J. Kramer (U.S.A.), 1946; R. Falkenburg and J. Kramer (U.S.A.), 1947; J. E. Brownlie and F. Sedgman (Australia), 1948; R. Gonzales and F. Parker (U.S.A.), 1949.

Women's Doubles (from 1919).—Mlle Lenglen and Miss Ryan (1919-23, 1925; Mrs. Wightman and Miss H. Wills, 1924; Miss Ryan and Miss M. K. Browne, 1926; Miss Ryan and Miss H. Wills, 1927; Mrs. M. Watson and Miss P. Sanders, 1928; Mrs. M. Watson and Mrs. Mitchell, 1929; Miss J. Fry and Miss E. H. Harvey, 1930; Mrs. D. C. Shepherd-Barron and Miss P. E. Mudford, 1931; Mme F. Mathieu and Miss Ryan, 1932-34; Miss Stammers and Miss James, 1935; Miss Jacobs and Miss Babcock, 1936; Mme F. Mathieu and Miss A. M. Yorke, 1937; Mrs. S. P. Fabian and Miss A. Marble, 1938-39; Miss L. Brough and Miss M. E. Osborne, 1940; Mrs. P. C. Todd and Miss D. Hurt, 1947; Miss L. Brough and Mrs. Dupont (Miss M. E. Osborne), 1948-49.

Other famous L. T. competitions are the Davis Cup (see DAVIS CUP) and the Wightman Cup, which is a similar competition for women, the Amer. championships, and the Fr. championships.

See Suzanne Lenglen, *Lawn Tennis: the Game of Nations*, 1925; F. Perry, *Tennis*, 1936; L. A. Godfree and H. B. T. Wakelam, *Lawn Tennis*, 1937; N. H. Patterson, *The Complete Lawn Tennis Player*, 1948; and T. Moss, *Lawn Tennis for Teachers and Players*, 1949.

Lawrence, St. (d. A.D. 258), early Christian martyr. He is said to have been b. at Huesca in Spain, and in the pontificate of Sixtus I. he became a deacon at Rome, and was called upon by Valerian to deliver up the church treasures. He brought forward the poor and the sick, his treasures, and was condemned to suffer death by burning on a gridiron. His feast day is Aug. 10. See ESCORTAL.

Lawrence, David Herbert (1885-1930), Eng. novelist; b. Sept. 11 at Eastwood, Nottingham; son of a coal miner. He went to Nottingham High School with a board-school scholarship and then to the local Univ. College. He became a clerk and later a schoolmaster. Coming to London, he wrote hist. books as *Lawrence II. Davidson*. His first novel was *The White Peacock* (1911). L.'s mother d. in the year of its pub., and this marked a crisis in his life. The demands of love which his mother made upon him and which he returned influenced his whole life and is the theme especially of his third

novel, *Sons and Lovers* (1913). L. describes man as a 'thought-adventurer,' and his novels and poems are records of his intense emotional experiences and thought-adventures. He is thus always an autobiographical writer. With *Sons and Lovers* he achieved fame, which, with *The Rainbow* (1915), was unjustly turned to notoriety. That book parallels the beautiful and penetrating series of poems, *Look! We Have Come Through* (1917, written between 1911 and 1915). L. was among the first six poets of the twentieth century, but he admittedly paid no attention to form. He was not concerned with art so much as with discovering a guiding authority for his own life and that of his generation whose difficulties from an ill-fitting morality he saw clearly. In *Fantasia of the Unconscious* (1922) he formulated the theories implicit in his novels. L. travelled much, finding sympathy and then disillusion. His intuition enabled him to penetrate and express the souls of the places and people he encountered. His travel essays show extraordinary descriptive powers: *Turkey in Italy* (1916); *Sea and Sandia* (1921); and *Mornings in Mexico* (1927). His sympathy with the traditions of the Aztec civilization encouraged him to found an ideal community in Mexico, while in his Mexican novel, *The Plumed Serpent* (1926), he expounds a mystical and yet physically satisfying religion. In his last works, *Lady Chatterley's Lover* (1928) and *The Escaped Cock* (1930), he returned without mysticism but with tenderness to the themes of human and divine love.

His primitivism, which led him to ignore character as conceived consistently and in a certain moral scheme, was apparently suggested by Maimon's physiology of matter, and therefore had its counterpart in the futurist movement which later developed into open Fascism. Hence the amorphism and incoherence of such novels as *The Rainbow* and *Women in Love*, the characters in which seem to belong to a sub-human world, having but little relation to true life. Even in the more coherent *Lady Chatterley's Lover* the characters exist solely as symbols of fecundity or otherwise, the proletarian alone offering vitality and rejuvenation; the fact being that L., struck by the corruption of capitalist society in its degenerate phase, concluded that all civilization was equally false. He rejected the intellect and, in reverting to what is irrational, superstitious, and rudimentary in man, himself became an embodiment of the very degeneration he sought to escape—a latter-day Baptist and a Noble Savage culling upon the world to repent of its intellectual pretensions and put its trust in the blood. His 'Fascist' sympathies are obvious in his Mexican story, *The Plumed Serpent*, in which the chief character, Kate, seems to represent reaction from the dry-rot of the world's sterility; but L.'s attribution of blood-lust to Mexican Indians is as remote from truth as are his characters. Although his genius as a lyrical rhapsodist and as a writer of peculiar sensibility is undoubted, much of

his work is marred by a sensationalism and excess that are usually associated only with vulgar art; while the novel, as he handles it, degenerates into formulae and an unrestrained flow. But this is really explained by the fact that L., far from solving his intellectual problems by presenting an objective picture, hurled himself at his task, thinking aloud as he writes so that, as has been well said, 'his battle with himself takes place in public and is itself the novel.'



D. H. L.

DAVID HERBERT LAWRENCE

Other works: *The Trespassers* (1912); *Love Poems* (1913); *The Widowing of Mrs. Holroyd*, play (1911); *The Prussian Officer*, stories (1911); *Amores*, poems (1916); *New Poems* (1918); *Bay*, poems (1919); *Touch and Go*, play (1920); *The Lost Girl* (1920), *Lovers*, poems (1921); *Jarrod's Rod* (1922); *England, My England*, stories (1922); *Fantasia of the Unconscious*, essays (1922); *The Ladybird* (1923); *Studies in Classic American Literature* (1923); *Kangaroo* (1923); *Birds, Beasts, and Flowers*, poems (1923); *The Boy in the Bush* (1921); *St. Mawr* (1925); *David*, play (1926); *The Woman who Rode Away*, stories (1928); *Poems*, poems (1929); *Pornography and O. enity*, essays (1929); *The Virgin and the Gipsy* (1930).

See H. J. Seligmann, D. H. Lawrence, 1934; E. D. MacDonald, *Bibliography of the Writings of D. H. Lawrence*, 1925; S. Potter, D. H. Lawrence, 1930; J. Middleton Murry, *Son of Woman: the Story of*

D. H. Lawrence, 1931; *A. Huxley* (ed.), *The Letters of D. H. Lawrence*, 1932; *K. Merrild, Poet and Two Painters*, 1938; and *H. Kingsmill, D. H. Lawrence*, 1938; also a selection (Everyman's Library), 1939. L.'s oil-paintings have been reproduced and pub. with an introductory essay by L. (1929).

Lawrence, Ernest Orlando (b. 1901), Amer. physicist. Educated at S. Dakota, Minnesota, Chicago, and Yale univs. National research fellow, Yale, 1925-27. Associate prof. and prof. of physics, univ. of California, 1928. Invented the cyclotron (q.v.) (1931), by means of which he made researches into the structure of the atom, produced artificial radioactivity, and brought about the transmutation of certain elements; applied radiations in the study of problems in biology and medicine. Made director of radiation laboratory, 1936, and fellow of Amer. Association for the Advancement of Science and of the Amer. Physical Society. Awarded Elliott Cresson medal of the Franklin Institute, 1937; Comstock prize of the National Academy of Science, 1937; Hughes medal, Royal Society (of Britain), 1937; Research Corporation prize, 1937; and the Nobel prize for physics, 1938.

Lawrence, Mrs. Gerald, see **BRAITHWAITE, LILIAN**.

Lawrence, Sir Henry Montgomery (1806-1857), Brit. soldier and statesman, elder brother of the first Lord L., was b. at Matara in Ceylon. He joined the Bengal Artillery at Dum-Dum in 1823, and took part in the first Burmese war (1823), the first Afghan war (1838), and the Sikh wars (1845, 1849). In 1842 he was appointed resident at the court of Nepal, and about this time founded his famous philanthropic institutions, the L. military asylums, in the Punjab, Rajputana, and Madras. He prophesied the Indian mutiny in two articles, pub. in 1856, and it was through his forethought that the Lucknow residency withstood the besiegers for four months. He himself was mortally wounded by a shell on July 2, 1857, and d. two days later. See lives by Sir H. B. Edwards and H. Morville, 1872; J. J. M. Innes, 1898; and J. L. Morrison, 1934.

Lawrence, James (1781-1812), Amer. naval captain, b. at Burlington, New Jersey. When in command of the *Hornet* he captured the Brit. ship *Pearcock*, but as commander of the *Chesapeake* was defeated by the *Shannon* and d. of his wounds.

Lawrence, John Laird Mair, first Baron (1811-79), viceroy and governor-general of India, was b. at Richmond, Yorkshire. He entered the Indian civil service in 1829, and acted as magistrate and land revenue collector in the neighbourhood of Delhi. When the news of the mutiny reached him he raised a new army of 59,000 men, and after a siege of three months captured Delhi. On his return to England (1858) the 'saviour of India' was created a baronet and granted a life pension of £2000 a year. He succeeded Lord Elgin as governor-general of India (1863), and was promoted to the House of Lords in 1869. See lives by B. Smith,

1885; Sir R. Temple, 1889; and Sir C. Alchison, 1892.

Lawrence, Mrs. Pethick-, see **PETHICK-LAWRENCE, MRS.**

Lawrence, Sir Thomas (1769-1830), Eng. portrait painter, b. at Bristol. He entered the Royal Academy in 1787, and was elected an associate in 1791 and a full member in 1798. He succeeded Reynolds as prin. painter to the king (1792), and became the fashionable portrait painter of his age. From 1820 till his death he was president of the Royal Academy. A representative collection of his work may be seen in the Waterloo Gallery, Windsor. See D. E. Williams, *Life and Correspondence of Sir T. Lawrence*, 1831; R. Gower, *Sir T. Lawrence*, 1900; and H. Layard, *Sir Thomas Lawrence's Letter Bag*, 1906.

Lawrence, Thomas Edward (1888-1935), Brit. oriental traveller and soldier, popularly known as 'Lawrence of Arabia'; b. at Tremadoc, Carnarvonshire. His father, described as 'a sportsman,' came from Meath, and had five children, all boys. L.'s childhood was spent in Jersey, Scotland, France (where, though no Catholic, he attended a Jesuit school), Hampshire, and Oxford. While attending City of Oxford School, he cycled for archaeological purposes. Graduated from Jesus College, where he became acquainted with D. G. Hogarth (q.v.). In 1909 he first visited Syria and narrowly escaped being murdered while tramping. Obtaining a travelling scholarship at Magdalen, he went excavating with Hogarth at Carchemish, and in Egypt with Petrie in 1910. He was mostly in the E. until the First World War began. When Turkey entered the war L. was sent to Cairo to assist Hogarth in the Arab Bureau; and in Oct. 1916 he began, at Jiddah, his extraordinarily successful activities in the insurgent Arab cause. He gathered recruits from beyond Haalbek, and, returning with them, fought a battle near Ma'an, Aug. 1917. He was made a lieutenant-colonel attached to the staff of Sir F. Wingate, and in 1918 transferred to that of Allenby. He was the channel through which flowed the Brit. subsidies that kept the Arabs in the field, being specially intimate with Faisal (q.v.); and he became famous as a wrecker of Turkish railway trains. He figured at the peace conference; but, because he thought the Arab interest neglected there, in 1922 he renounced rank, together with the surname Lawrence—which had been assumed by his father—took (by deed-poll) the name of Shaw, and joined the air force as a craft-man. He d. as the result of a motor-cycle accident. His complex literary gifts were displayed in *Seven Pillars of Wisdom* (i.e. Cairo, Smyrna, Constantinople, Beirut, Aleppo, Damascus, and Medina), issued to subscribers only in 1926. An abridgment, called *Renolt in the Desert*, was pub. 1927; *The Odyssey of Homer* in 1935; and *Crusader Castles* in 1936. His letters were ed. by D. Garnett in 1938. See A. W. Lawrence (ed.), *Lawrence by his Friends*, 1937; E. Graves and B. H. Liddell Hart, *T. E. Lawrence*

to his *Biographers*, 1941; and J. Boussard, *Le Serret du colonel Lawrence*, 1940; also lives by L. Thomas, 1924; R. Graves, 1927; H. H. Liddell Hart, 1934; V. Richards, 1936; and J. T. Gorman, 1940.

Lawrence, Sir William (1783-1867), Eng. surgeon, b. at Cirencester. He became demonstrator in anatomy at St. Bartholomew's Hospital (1801), member of the College of Surgeons (1805), F.R.S. (1813), assistant-surgeon (1813), surgeon (1824-1866), and lecturer on surgery (1829-62) at St. Bartholomew's. Baronet, 1867. His most important works are *Treatment of Hernia* (1800); *On the Venereal Diseases of the Eye* (1831); and lectures on anatomy (1816 and 1819), and on surgery (1863).

Lawrence: 1. Co. seat of Essex co., Massachusetts, U.S.A., on both sides of the Merrimac R., 26 m. to the N. of Boston. It has some of the largest mills in the world, the 28-ft. fall of the riv. and a large dam providing excellent facilities for working them. The manufs. include cotton, woollen, and worsted cloth, and paper, as well as steam engines and machinery, and shoes. Pop. 11,400. 2. Tn. in New Zealand, on the E. Is., with rich gold-mines near. Pop. 1200. 3. Co. seat of Douglas co., Kansas, U.S.A., on the Kansas R. It possesses the Kansas Univ., one of the largest Indian schools, and the Haskell Institute. It manufs. paper, flour, carriages, and iron. There are coal-mines in the dist. and farming is carried on. Pop. 11,100.

Lawrence, St., River, see ST. LAWRENCE. **Lawrenceburg**, co. seat of Dearborn co., Indiana, U.S.A., 22 m. W. of Cincinnati. It is one of the oldest tns. in Indiana. The manuf. of flour is the chief industry. There are also crackeries and veneer and furniture works. Pop. 4000.

Law Reports are to be distinguished from the reports of legal proceedings in newspapers. L. R. are concisely written accounts of the arguments and judgments in such cases before the courts as involve in their decision some new legal principle or the novel application or the extension or limitation of an existing principle. Such reports are essential in any system which pays regard to precedent and recognises the value of judicary or 'judge-made' law. There are in England at the present day multitudinous reports both private and official. Among the best of the unofficial reports are those of the *Law Times*, *The Law Journal*, *The Justice of the Peace*, and *The Times*, cited respectively as L.T.R., L.J., J.P., and T.L.R. The abbreviated citations of the official reports are A.C. (appeal cases), L.R.K.B. (King's Bench), and L.R.C.D. (Chancery Div.), with the year and number of vol. preceding. The official L. R. only commenced on Nov. 2, 1865, and their institution was due to the exertions of W. T. S. Daniel, Q.C., a former co. court judge. Law reporting is an art requiring considerable legal training and an acute eclectic power. Many barrister-reporters of the Council of Law Reporting have subsequently acquired judicial or professional distinction. There are also the

official Irish reports, but the various Scottish L. R. pub. for the faculty of advocates are not official. The Indian L. R. are pub. under the authority of the governor-general by the legislative dept. of the Bengal secretariat, the Ontario L. R. under that of the Law Society of Upper Canada, Quebec reports by the Quebec Bar. A similar system of federal and states reports has reached its full development in the U.S.A. It is to be observed that official L. R. have, as such, no superior title to judicial respect to such unofficial reports as have gained a first-rate reputation.

Laws of War, see AERIAL WARFARE; CHEMICAL WARFARE; INTERNATIONAL LAW; PRISONERS OF WAR; REPRISALS; CRIMES, WAR.

Lawson, Cecil Gordon (1851-82), Eng. landscape painter, b. at Wellington, Shropshire. His pictures were first hung at the Royal Academy in 1870; after this, however, sev. of them were rejected, and in 1875 he sent up a much larger work, entitled 'The Hop Gardens of England,' painted at Wrotham in Kent. This also was refused until the following year. 'The Minister's Garden' was one of the first pictures to bring him fame. See memoir by Sir E. Gosse, 1883.

Lawson, Sir Wilfrid (1829-1908), Scottish politician, was first returned to Parliament as a member for Carlisle in 1859. From 1886 to 1900 he represented Cuckermouth, and from 1903 to 1905 the Camborne div., Cornwall. He was an ardent advocate of teetotalism, and in 1861 introduced a local veto bill which provided that the public-houses in any dist. should be closed where two-thirds of the inhab. expressed a wish to this effect. The bill was thrown out by a great majority. In 1867 he succeeded to the baronetcy. Denounced as a faddist, he was nevertheless always listened to in the House. See memoir by G. W. E. Russell, 1909.

Law Terms, see TERMS.

Lawyer, generic term embracing any one versed in the law, or who follows the profession of the law, or practises in the law courts. It now includes jurists, judges, barristers or counsel, and solicitors, though formerly there were also attorneys, special pleaders, and proctors. Attorneys corresponded to the procurators of the civil and canon law, but by the Judicature Act, 1873, they were denominated solicitors, a term once appropriated exclusively to a legal agent who practised in the courts of equity. Special pleaders were those members of the Inns of Court whose occupation was confined to giving opinions and drawing pleadings. These functions are now performed by counsel in the ordinary course of their duties. Proctors, who were analogous to solicitors, and practised in the Court of Arches, are now classed as solicitors.

Laxatives, see under APERIENTS.

Layamon, **Lawman**, or **Lagemann** (M.E. *Lasamon*, judge, juror) (fl. c. 1200). Eng. priest, famous as the author of a semi-Saxon paraphrase of Wace's poem, *Roman de Brut* (1155). A poetical version

of the legendary hist. of Britain, it recounts the doings of Brutus (Brit), great-grandson of Eneas, his landing in Britain, and the hist. of the land down to Cadwalader's death. Two valuable MSS. are in the Brit. Museum, and were ed. with trans. by Madden (1847). See G. Marsh, *Origin and History of the English Language*, 1865.

Layard, Sir Austen Henry (1817-94), Eng. archaeologist and diplomatist, noted for his discoveries in Asia Minor. He began his excavations at Nineveh in 1845 and made further discoveries at Bagdad, Kuyunjik, and near Mosul. L. was under-secretary for foreign affairs (1852, 1861-66), M. P. for Southwark (1860-1870), minister to Spain (1869-77), and ambas. at Constantinople (1877-80). He was commissioner of public works under Gladstone (1868). His publs. include *Nineveh and its Remains* (1848); *The Monuments of Nineveh* (1849-53); *Inscriptions in the Cuneiform Character, from the Assyrian Monuments* (1851); and *Discoveries in the Ruins of Nineveh and Babylon* (1853). He secured many ant. sculptures and bas-reliefs, now in the Brit. Museum. He was in the Crimea during the war, and on the committee appointed to inquire into the conduct of the expedition. See *Autobiography and Letters*, 1902; life by W. Bruce and A. Otway, 1903; and S. Lane-Poole, *Life of Stratford Canning*, II, 1888.

Lay-reader, in the Anglican Church a layman licensed by the bishop to read morning and evening prayer (except the absolution), to officiate at funerals, and to read the sermons of approved divines. In the time of St. Cyprian Ls. were an inferior order of clergy. The reformed Prayer Book of Edward VI. contained an office for the admission of readers, which became extinct in the eighteenth century.

Layton, Sir Walter Thomas Layton, first Baron (b. 1854), Eng. economist and newspaper proprietor. He was educated at King's College School, Westminster City School, Univ. College, London, and Trinity College, Cambridge, where he was lecturer in economics from 1912. He was a member of governmental missions to Russia and the U.S.A. in 1917, and delegate to the World Economic Conference in 1927. C.B. 1919. From 1922 to 1928 he was editor of the *Economist*, and in 1930 became chairman of the *News Chronicle* and the *Star*, and a director of Reuters. From 1940 to 1942 he was a member of the Supply Council and director-general of programmes at the Ministry of Supply. In 1947 he was raised to the peerage. He has written *An Introduction to the Study of Prices* (1921, 1938) and *Relations of Capital and Labour* (1944).

Lazaretto: 1 Lazar-house or hospital for lepers, dedicated to St. Lazarus (q.v.). These houses existed throughout Europe in the Middle Ages, and were estab. not solely for lepers but for the sick poor. Since about the fourteenth century leprosy has been steadily declining in Europe and is found only in limited dists. in Norway, Iceland, Russia, and a few

other countries. Modern leper hospitals exist at Bergen (Norway), Truacade (New Brunswick), Robben Is. (Cape Town), and sev. are in India. 2. Place for the performance of quarantine, estab. for the reception of goods or passengers or crew of a ship suspected of certain infectious diseases, such as yellow fever, plague, or cholera.

Lazarus, St., the poor man in the N.T. parable (Luke xvi.). The military order of S. L., founded during the crusades, one of whose duties was to take care of lepers, was named after him. See also LAZARETTO.

Lazulite (a mineral), see AZULITE.

Lazzaroni (It. beggars), name given to the lowest class of the pop. in Naples. The name originally signified lepers.

Lea, or Leo, riv. of England rising in S. Bedfordshire. It flows S.E., past Luton into Hertfordshire, E. past Hertford and Ware, S. between Hertfordshire and Essex, bounds Hertfordshire and Middlesex on the E., finally joining the Thames at Blackwall, below the Isle of Dogs. It is navigable for 28 m., and noted for fish.

Leacock, Stephen Butler (1869-1944), Canadian economist and humorous author; b. at Swanton, Hampshire, England; son of W. R. L., of Oak Hill, Isle of Wight, who migrated to Canada in 1876, and took a farm near Lake Simcoe, Ontario. He was educated at Upper Canada College, Toronto, and the Univ., graduating in 1891. He was on the teaching staff of Upper Canada College till 1899, and joined McGill Univ., Montreal, as lecturer, later becoming head of dept. of economics and political science. He wrote on economics and Canadian hist., but is best known for a genial iconoclast, not unlike Mark Twain, through such books as *Literary Laptes* (1910); *Nonsense Novels* (1911); *Sunshine Sketches of a Little Town* (1912); *Moonbeams from the Larger Lunacy* (1915); *Further Foolishness* (1916); *Unimpaired Wisdom* (1926); *Short Circuits* (1928); *Elements of Hicconomics* (1936); *Humour and Humanity* (1937); *Model Memoirs and other Sketches from Simple to Serious* (1939); and *Our British Empire* (1940). See his autobiography, *The Day I Left Behind Me* (1947).

Lead, city of Lawrence co., S. Dakota, U.S.A. Has one of the largest gold-mines in the world, and carries on manuf. of gold jewellery. Pop. 7600.

Lead (symbol Pb; atomic number 82; atomic weight 207.2, sp. gr. 11.4, an average value. See RADIOACTIVITY). L. was one of the metals known to the ancients. It can easily be scratched by the nail and marks paper. It is malleable, tough, and flexible, but not ductile nor tenacious. It melts at 325° C., and at temps. just below this point it becomes very brittle. Dry air at ordinary temps. has no effect on it, but when exposed to moist air it becomes covered with a white film of basic carbonate. Ordinary water attacks the metal, and as soluble lead salts are poisonous, this may be dangerous. Ammonium nitrate in solution exerts a powerful solvent action. If water

contains only small amounts of ammonium salts and a fair amount of hardness, temporary and permanent, it is fairly safe for drinking. On heating it reduces in air it oxidises readily and forms litharge. It is dissolved by nitric acid and slightly attacked by strong sulphuric acid, but dilute hydrochloric or sulphuric acid does not attack it.

Commercial L is one of the purest metals of commerce, impurities being usually the inconstant traces. Copper is sometimes present, which is objectionable when the L is required to form white L or red L. The most widely distributed ore is galena (PbS) and smelting processes are all designed for the treatment of this compound. The galena always carries more or less silver so that the separation of this element is nearly always involved in the process. When the crushed ore is delivered to the smelting house it will be found to contain nearly 80 per cent of L as the earthy material (gangue) is easily removed owing to the high density of the galena.

There are three processes for the smelting of the L: (1) The Flintshire air reduction process, (2) the blast furnace process, (3) the Scotch process. These smelting processes differ in the type of furnaces used. The Flintshire process has been used for a very long period in N. Wales for the reduction of the unusually pure L ores found there; the gangue in this case being mainly a carbonate of lime. The furnace is a large reverberatory one having a hearth which slopes to a well from which the molten L is tipped. A lining of grey slag is used to prevent contact with the brickwork. The charge consisting of about a ton of galena is roasted at a dull red heat for two hours during which period it is frequently turned. The fire is then made up and the L begins to run down to the well on the surface of which there floats a mass of clotted galena and gangue. At this time is added the mixture again roasted and the cycle completed as above. This process is called the air reduction process because no external agent except air is employed. The galena is oxidised into the oxide and sulphate of L with the evolution of sulphur dioxide, and these compounds further react with more galena forming pure L and sulphur dioxide.

In the N. of England a small blast furnace is used simply consisting of a brick shaft with a sloping iron bed plate. This shaft is lined with fire brick for a height of about 1 ft. Through the back comes a single tuyère about a foot above the bed and a charging space is left above the iron plate called the fore stone, which closes the front. The L trough is an iron pan, the larger part of which is filled with coarse cinders, and separated from the rest by a vertical partition, which does not quite reach the bottom. The bed plate is now covered with a sloping mass of coal ashes to about 1 in. below the tuyère the fire is then made up with coals and peats, and the blast is turned on. When the furnace is hot slag, ore, and the fused

mass over from a previous charge (browse) are introduced. As the reduction goes on the L sinks through the ashes on the bed plates and runs into the troughs and filters through the cinders into the smaller dy where it is tapped into moulds. The L so obtained is hard and somewhat impure.

The last process is the Scotch one in which there is an iron sump set in a square and 6 in. deep set in masonry and



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LEAD MINES AT BUCKING HILL,
NEW SOUTH WALES

surrounded on three sides by iron bars about 8 in. square. The bars are called the side stones and the back stones. In the back stone is the single tuyère. The front of the hearth has a sloping plate in which is a gutter down which the L flows into a trough. The open back opposite to the back stone carries a gutter which supports a small tube for carrying off the fumes.

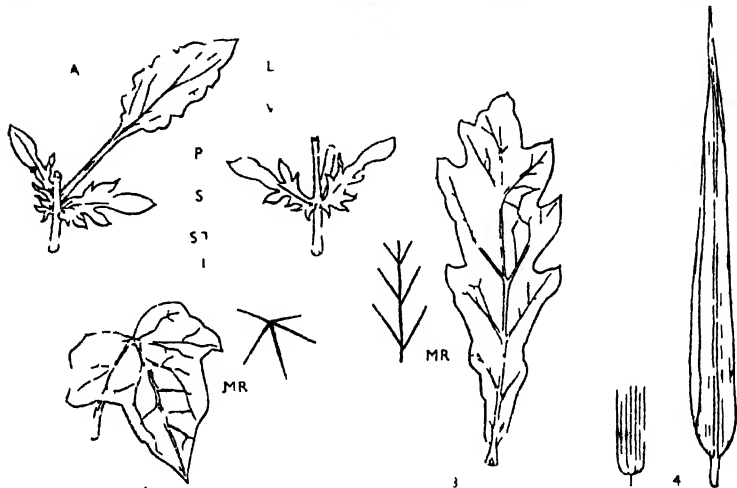
L produced by these processes is nearly always hard and has to be softened. This is quite a simple process as the impurities which render the L so hard will all oxidise if the L be kept heated for several hours or days as the case may be. Any amount of L can be treated at once, the oxides rising to the top and being skimmed off.

L being very malleable is easily rolled into sheets. L for this purpose is first cast into cakes about 5 ft. square. L piping is common because L, when hot, flows easily under pressure. Such pipes are usually forced out by strong hydraulic pressure, the L being squeezed between the core and the die. Shot is made by pouring molten L into a perforated ladle containing cinders; the L finds its way through the perforations, and if allowed to fall through about 150 ft. the drops become spherical. Those which are not true are separated by rolling down an inclined plane having a gap in it. The true ones will gather enough impetus to jump it, but the oblate ones fall through and are re-made.

L forms numerous alloys and in particular: *Bronze bearing metal* (Cu 77, Sn 8, Pb 15), *solders* (Pb and Sn), a common one being composed of equal amounts

of the two metals; *pester* (Sn 75, Pb 25), and *fusible alloys* of many kinds. It forms a basic oxide PbO (litharge; massicot) from which the many salts of L. can be obtained by interaction with appropriate acids. In such compounds the valency of the metal is two. In addition there are the oxides L. 'peroxide' or dioxide, PbO_2 , a pure coloured solid; Red L. (Pb_3O_4), both of which can be made to yield oxygen either when heated alone or with concentrated sulphuric acid. The sulphate and carbonate

(qv) a L. Q is one which by its form suggests to the witness the answer required by counsel for the purposes of his case. For example if, in an action for damages for personal injuries alleged to have been sustained by the negligence of a motor-bus driver, the plaintiff's case is that the bus was being driven at an excessive speed, a witness for the plaintiff should be asked not 'Was the bus going at a furious pace?' but 'At what speed was the bus going?' L. Qs are, however, put by mutual consent as to matters not



LEAF PARTS AND VENATION

Leaf parts 1, (pansv) A, axil of leaf between stem and petiole L lamina or blade V, vein or nerve, P, petiole or leaf stalk, S, stipule at base of petiole SI, term of plant
Venation of leaves 2, Reticulate or net venation of iv (palmate), 3, reticulate venation of oak (pinnatifida), 4, parallel venation of ba 100 MR mid rib

of L. can be obtained by double decomposition, and are almost insoluble in water. White L. (qv) is an important white pigment made by the action of acetic acid (vinegar), air, and carbon dioxide on the metal.

Production—The U.S.A. produces over one-third of the world's L. output, Mexico following with about one eighth. Other leading countries are Australia, Spain, and Germany. See also **ACCUMULATOR**. See J. W. Gough, *The Mines of Mendip*, 1930.

Lead Chromate, see **CHROME YELLOW**.

Leadgate, c. 1845, par. and mining tn. of Durham, England, 11 m. from Newcastle. Both coal and iron are found. Pop. 5000.

Lead-glance, see **GALENA**.

Leadhills, vil. of Lanarkshire, Scotland, 18 m. S. of Lanark. It is about 1320 ft high, and its lead mines have been worked since the early seventeenth century. Some silver is also mined. Pop. 1000.

Leading Question. In the law of evidence

contested or merely introductory, and may also be put to refute evidence already given by an opposing witness. L. Qs may, however, be put without restriction in cross examination.

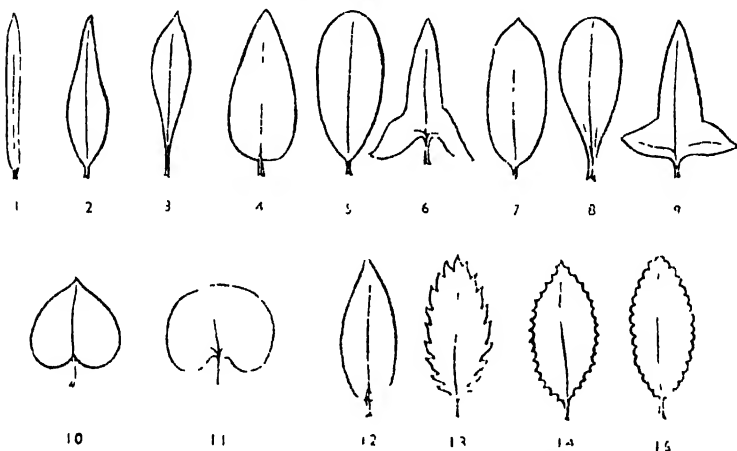
Lead Plaster (*Emplastrum plumbi*), made of lead acetate, soap, and water, and is used as an external application to raw and irritated surfaces. It has practically no effect on the unbroken skin, but when applied to sores has the effect of coagulating the albumen and so contracting the small blood-vessels. *Emplastrum plumbi iodidi* is made from lead iodide, and has much the same curative effect.

Lead Poisoning, or **Plumbism**, form of poisoning due to the introduction of lead into the system. It is an occupational disease and specially affects workers in potteries, where lead glaze is used, painters, plumbers, glaziers, printers, and others. In such cases the disease is the result of minute doses of lead being absorbed over a long period of time. The

symptoms vary with the extent of the poisoning, and also with the constitution of the individual. A common form is painter's colic, which is attended with frequent intestinal pains and obstinate constipation. The poison proceeds to produce anæmia, wasting, muscular tremors, and ultimate paralysis. Among characteristic signs are the blue line on the gums and the presence of 'wrist-drop,' in which the hands become useless and the joints deformed. A test for lead in the system is provided by painting a small area of the skin with a 6 per cent solution of lead sulphite; if lead be present the area will darken in a few days. The treatment

an anti-knock it is mixed with ethylene dibromide, which carries off the lead in the exhaust gases.

Lead, The, instrument for discovering the depth of water at sea. It is a large piece of elongated lead, something the shape of an old-fashioned clock-weight, attached to a line called the lead-line, generally about 20 fathoms long. It weighs from 7 to 11 lb. There is a cavity at the lower end, filled with tallow to ascertain upon what sort of ground the soundings are struck. The weights for different depths of sea sounding naturally vary. When the depth is great the deep-sea L., weighing from 25 to 30 lb.,



LEAF: SHAPES OF BLADES AND THEIR MARGINS

1, linear; 2, lanceolate; 3, oblanceolate; 4, ovate; 5, obovate; 6, sagittate; 7, elliptical; 8, spatulate; 9, hastate; 10, cordate; 11, crenate; 12, entire; 13, serrate; 14, dentate; 15, crenate.

in acute cases consists of the administration of potassium iodide. Lead colic may be alleviated by administration of belladonna; for paralysis strychnine is used in conjunction with potassium iodide, and electro-therapy has proved a valuable aid in restoring the use of muscles. The treatment should in all cases be prescribed by a doctor. Preventive measures employed in factories include the wearing of overalls and respirators, the provision of baths and insistence on their use by employees, frequent medical examinations, and the provision of acid drinks tending to remove lead from the system.

Lead tetraethyl, $Pb(C_2H_5)_4$, was first made in 1859, but only in recent years has it been utilised as an anti-knock constituent of motor fuels, a very small percentage of the compound being enough to allow greater compression without the disadvantage of self-ignition. It is manufactured by heating an alloy of lead and sodium with ethyl chloride in a closed vessel at 40° – 60° C. It is a poisonous liquid, immiscible with water. For use as

is used, the line being marked by knots every 10 fathoms. One of the regulations prescribed by the navy is that ships shall constantly keep the hand-lead going, when near land or shoals, or in pilot water.

Leadville, co. seat of Lake co., Colorado, U.S.A., founded in 1859 as 'California Gulch', 76 m. S.W. of Denver. Gold, silver, and lead abound, and there are large smelting furnaces. It is 10,200 ft. above sea level. Pop. 5600.

Leaf, in botany is a term applied to various lateral outgrowths of the stem, e.g. bracts, sepals, and petals, all of which are considered under their individual headings, but in its best known sense it is applied to those members of the plant which constitute its foliage. The foliage L. consists typically of three parts, the *lamina* or L.-blade, *petiole* or L.-stalk, and the L.-base. The latter frequently bears two lateral outgrowths known as *stipules*, e.g. rose; when the petiole is absent, as is often the case, the L. is said to be *sessile*, e.g. honeysuckle. The shape of the lamina varies greatly, but the different

forms are divided sharply into two as *compound* or *simple*, the former indicating that the lamina is split up into a number of distinct parts called leaflets (as in the horse-chestnut, which is palmately compound, and the ash, which is pinnately compound), while the latter indicates that however much the blade may be indented it is not split up into leaflets. The venation of L.s. is necessarily related to their form: in the typical L. of a Monocotyledon, e.g. iris, the veins run parallel to one another, and the L. is long and undivided, while in a Dicotyledon the venation is always reticulate and the L. may be greatly divided, e.g. horse-chestnut. The same plant may bear several types of L.s., and one which grows with part of its foliage in a submerged condition will be noticed to have its aquatic L.s. very finely divided to withstand the force of the water (e.g. water crowfoot). The functions performed by L.s. are of the greatest importance to the life of the parent plant. Most of the carbon dioxide absorbed from the atmosphere is taken in by the Ls. during photosynthesis; respiration or the exchange of carbon dioxide for oxygen is also effected by them, as well as transpiration or the giving off of large quantities of surplus water. The development and arrangement of leaves are associated with these functions. To use carbon dioxide the L. must have light, and Ls. form a mosaic to secure as much as possible without directly overshadowing one another. Plants growing in dry situations (xerophytes) frequently have Ls. which are reduced in size, or provided with hairs, sunken stomata, or thick cuticles. These were formerly regarded as devices which reduced water loss during transpiration, but experiments show that such plants may actually transpire rapidly, and it seems that the problem is more complex than was at first thought. Ls. may be variously modified, e.g. into the fleshy parts of bulbs, or into tendrils or thorns; reduced (scale) Ls. also occur.

Leaf Insect, insect genus (*Phyllium*) of the family Phasmidae, which, on account of its resemblance to a leaf, conceals itself from its enemies. The leaf-like appearance is chiefly due to the arrangement of the veins in the front wings, especially in the female. The vegetable mimicry is carried out even in the eggs, which, in many species, closely resemble seeds.

League (Lat. *lueca*, a Gallic m.), measure of length of great antiquity, estimated by the Romans at 1500 paces, or 1376 Eng. m. It was introduced into England by the Normans, and was then equal to 2 O.E. m., or about 3 modern m. It is now a nautical measure, the twentieth part of a degree, i.e. 3 geographical m., or 3.456 statute miles. The Fr. and other nations use the same nautical measure.

League of Nations. The desire for the cessation of war became general throughout W. Europe during the nineteenth century, and at the Hague Conferences of 1899 and 1907 attempts were made to lessen the probability of war, but when the third Hague Conference was about to

meet, the First World War broke out. After the armistice in 1918 associations to prevent wars were formed in England, France, Germany, and Scandinavia, while in the forefront of the Versailles peace treaty were placed President Wilson's proposals for a L. of N. (see COVENANT OF THE LEAGUE OF NATIONS). The L. of N. formally came into being on Jan. 1, 1920, when the treaty of Versailles came into force, and it consisted of twenty-eight allied states and fourteen neutral states. The U.S.A. was not a member. The membership of the L. of N. was later increased to some sixty states, the Brit. Empire and the dominions (including Eire, together with India) being each an independent member, with separate voting power and representation. Japan and Germany withdrew in 1933; Russia and Afghanistan became members in 1934. Membership was open to fully self-governing states, dominions, and colonies, provided effective guarantees were given on intentions to observe international obligations and to accept the ruling of the League in matters concerned with the military services, but the subsequent hist. of Europe made these and many other conditions of purely academic interest. A two-thirds majority in the assembly was required to secure membership. The purpose of the L. of N. was 'to prevent future wars by establishing relations on the basis of justice and honour and to promote co-operation, material and intellectual, between the nations of the world.' The official seat of the L. of N. was at Geneva and the official languages were Fr. and Eng. The names of Earl Balfour, Aristide Briand, Lord Robert Cecil, Lord Gray of Fallodon, Dr. F. Nansen, Dr. Gilbert Murray, and F.M. Smuts are among those especially associated with the development of the League. Under the covenant of the League (q.v.) a member state undertook never to go to war with a fellow state until all possibilities of a peaceful settlement had been exhausted, and then only after an interval of nine months. With a member state which broke this pledge, the other states guaranteed to discontinue financial and economic relations. The covenant of the League was the final successor of the treaty of Westphalia and the treaty of Vienna which also set forth general international policies; but it differed from these earlier documents in that its signatories constituted the majority of the world's govts.; that its provisions were more far-reaching, including the estab. of a permanent administrative, deliberative and judicial organisation; and, also, in that it was based implicitly upon an agreed philosophy of government. The League was not an executive body. It had no Cabinet. It was not an instrument of international policy. League or no League, policies continued to be framed in the different caps. and by the ministers and foreign offices of individual states. That could not but continue however much the League or any analogous body might gain in authority, for many world problems are too great to allow of cen-

tralised direction. The mutual relations of two or more states are of no concern to the society of states unless and until they involve danger of a breach of the world's peace. The function of the League was, in this sphere, not positive but negative. It did not conduct policy. It served as the limiting factor of policy. But the prevention of war cannot be dissociated from the positive organisation of society. Hence the concern of the League for the limitation and control of armaments and the obligation of its members to interchange full and frank information on this subject. The League was, in essence, an association for mutual protection. It was based on the conception of co-operative defence and it was pledged to embody that conception in a practical system. All treaties which a member state contracted with other states were to be registered with the League for immediate publication. Members of the L. of N. were to direct international interest and action towards such questions as labour conditions, public health, communications, economic and financial questions, the traffic in arms, the traffic in women and children and the traffic in dangerous drugs. The primary organisations of the L. of N. were as follows: (1) The Assembly, consisting of delegations from all the member states. Each delegation consisted of three delegates and each state had one vote. The Assembly met usually at Geneva on the first Monday in Sept., and the president was elected at the beginning of each session. The Assembly was divided into six principal committees concerned with jurisdiction, technical organisations, disarmament, budget and staff, social questions, political questions, and the admission of new members (these committees were, of course, suspended after the outbreak of the Second World War). The decisions of the Assembly had to be unanimous except on questions of procedure when a majority vote only was required. (2) The Council, consisting of permanent members and non-permanent members, while any state might be represented at meetings at which matters affecting that state were discussed. The Council met in Jan. May and also before and after the meetings of the Assembly in Sept. (3) The secretariat, the permanent civil service of the L. of N., was composed of the secretary-general and 100 officials selected from citizens of the member states and from the U.S.A. It was the working instrument of the League, with head-quarters in Geneva. (4) The International Labour Office, which had a working staff almost as large as that of the secretariat. (5) The Permanent Court of International Justice (see INTERNATIONAL JUSTICE, COURT OF). There were other secondary organisations belonging to the L. of N., such as technical organisations, permanent and temporary advisory committees, administrative commissions, international institutes, and an international bureau. The expenses of the L. of N. were shared by the member states, and the annual expenditure was about \$1,000,000. In

1928 John D. Rockefeller, Junior, gave £2,000,000 for the endowment of the League library.

The chief function of the L. of N. was the prevention of war, although its important social and economic work must not be overlooked. The League, working through the council, did prevent war in six instances— as in 1921 when Yugoslavia invaded Albania and in 1925 when Bulgaria invaded Greece. Other political disputes which were settled were in 1920, between Sweden and Finland concerning the Åland Is. and later a frontier question between Turkey and Iraq. Other work of the L. of N. consisted in arranging mandates for various countries in investigating the minority question of certain countries, and in assisting reconstruction work in Austria, Hungary, and N. Greece. The constitutional and co-operative work of the League embraced valuable contributions to child welfare work and public health instruction. Many years' study was given to the question of disarmament in preparation for the Disarmament Conference of 1932, but the doctrine of collective security was doomed to frustration. The L. of N. soon began to encounter failure when the vital interests of powerful totalitarian nations were involved, as for example when Italy disavowed its intervention over the murder of Italmi and Greece was forced to pay indemnity of 4,000,000. Also the League never arrived at a just settlement of the Polish-Lithuanian quarrel occasioned by the seizure of Vilna in 1920. One of the chief causes of failure on the constructive side was that its economic conferences had little effect on the tariff policies of individual nations. The L. of N. did not but ought to have forced its decisions on member states. In fact all conventions (international agreements) sponsored by the League had to be ratified and ratification was optional at the discretion of each gov. Thus a member state was not allowed to interfere with tariffism, but once a convention was ratified the contracting states were bound to carry it out. If they failed to do so other states might lodge a claim against them. What happened instead was that reluctant states merely withdrew their membership or went to war in spite of the League's decisions. In 1933 the Disarmament Conference broke down. In the same year Mussolini invaded Abyssinia regardless of economic sanctions. Germany, who was now rearming at top speed, gave notice of secession from the League and she was followed by Japan who had invaded N. Manchuria in defiance of a European Commission and the adverse judgment of the League. (See ITALO-ABYSSINIAN WAR, 1935; SINO-JAPANESE WAR.) Again when Paraguay and Bolivia went to war over their rival claims to the Gran Chaco no power intervened and the warnings of the League were innocuous. When Japan occupied Manchuria the League instituted no economic sanctions, nor made any effort to expel Japan from her, which Japan asserted to be vital to

her national existence.' Italy gave notice of withdrawal in 1937 as a consequence of her *entente* with Germany and the League's half-hearted efforts to thwart her Ethiopian adventure. Sev. of the S. Amer. states also left the League or gave notice of their intention to do so. The prestige of the League never recovered from the blow of the It. conquest of Abyssinia—for a League that took care to confine sanctions to a restriction of trade as opposed to military sanctions had, in reality, abjured the covenant. The result was that the different nations reverted to the policy of alliances and blocs. 'Perhaps nothing bore clearer witness to the continuance of the rule of material force,' writes Bernard Pares about the disarmament proposals, reparations, and the restrictions on Germany. 'than the fact that not one of the major questions which concerned the major powers was settled by the L. of N.—if we except Locarno and the temporary acceptance of the demilitarisation of the Rhineland, which was certainly achieved under its influence, but in no way applied to E. Europe. It was only the minor states that had to obey the League—not even Poland in the matter of Vilna. But so far, the territorial provisions of the treaty of Versailles stood. It was only with the advent of Hitler that we had to face the question on whether they were to go the way of the rest.' The annexation by Germany of Austria and Czechoslovakia met with no opposition from the League, which was again supplanted when Germany invaded Poland in 1939. Yet curiously enough, after the Russian invasion of Finland, the League Assembly was convened on Dec. 11, 1939, Russia's action was condemned and she was expelled from the League—the one member which had made the strongest appeals for disarmament. It might seem small ground for surprise that, since then, the League displayed no activity. In 1938 the League was operating through a permanent council comprising only Great Britain, U.S.S.R., and France, with twelve other states elected annually. In 1940 some of the offices of the League were transferred to New York. The final meeting of the League Assembly was held on April 8, 1946. The states remaining members of the League to the last sent strong delegations to this final meeting, thereby attesting at the last solemn obsequies the importance they attached to its principles; for although the League was now disappearing, the United Nations Organisation (*q.v.*) had already replaced it and was now to take over the material assets of the League and assume some of its political and technical functions. The necessary decisions had to be taken as quickly as possible so that essential work might be carried on without interruption. All through the war the League had kept alive the machinery and technical services it had estab., for a long period with the hostile Gers, only ten minutes' walk from the Palais des Nations. Far-reaching powers were entrusted to the League by nations or groups of nations

under treaties, conventions, and other international political instruments. The League's Treaty Series, almost the only part of its activities that had, for obvious reasons, not been kept fully abreast of events during the war, needed to be taken over by the U.N.O. so that the valuable international code might be completed. Even before this closing meeting of the League Assembly the U.N.O. decided to take over the technical sections of the League, notably the economic, social, health, and opium sections—together with the League Library of more than 300,000 vols. and the archives of the League. It seems that in spite of the great difficulties which attended the League's finances during the war the accounts were kept in a highly satisfactory manner: and thanks to a policy of drastic economy, by which the budget was reduced by 20 per cent of that of 1939, the financial position remained sound to the last. The total value of the assets was about 47,000,000 Swiss francs. It may be that, on balance of opinion, the acting secretary-general in his final report on the work of the League was justified in his view that the League may be held not to have failed, but that it was the nation that failed the League—failure being due to the fact that statesmen and peoples contented themselves with lip service, while some states foolishly imagined that they could be lookers-on. The success of U.N.O. will also depend on how it is used, for it is a continuation of the first effort to organize the nations, the basic problem remaining the same, the objects being unchanged, and the available methods hardly any different.

Historical Analogies to the League of Nations.—The concept of the L. of N. of 1920 was new, but more or less remote analogies may be sought in former schemes or projects for a European federation. This project indeed has a long hist. 'Since the fourteenth century the idea of bringing the states to federation has been in the European mind. As early as 1307 the Fr. *legiste*, Pierre Dubois, had drafted a scheme for forming a union of Christian nations under the lead of the king of France' (J.S. Ross Hoffman, *The Great Republic*, 1942—Chapter I, of which describes the deeply settled objection of western man through the centuries to a world state). At the end of the sixteenth century Henry IV.'s minister, Sully, set forth a comprehensive plan: 'Europe would be composed of fifteen dominions nearly equal in size and strength and those would be constitutionally integrated in a permanent league.' The proposal was adapted to the needs of the eighteenth century by the Abbé de Saint Pierre. After the War of the Sp. Succession, which ended in 1714, he proposed to form 'a permanent league of European states on the basis of the *status quo*, which league would command an international army and have power to enforce submission to its collective will.' After the Napoleonic wars these ideas influenced the conception of the Holy Alliance, and after the First World War they were revived by Aristotle

Briland (q.v.). (See W. Lippmann, *U.S. War Aims*, 1944.)

For centuries past, indeed, mankind has searched for some means of preventing war. Repeatedly in the last four centuries there has been held up as the ultimate ideal the conception of an association of nations co-operating for their common good and bound together for the fundamental purpose of making war impossible. Some former plans still have more than an historical interest. Research to-day will find something of practical value in such conceptions as those embodied in Wm. Penn's plan for a federal union of Europe, made known in 1693, or again in the scheme for a federation of free and democratic peoples pub. in 1795 in Kant's *Critique of Pure Reason*. The chaotic period which followed the Fr. Revolution and Waterloo gave a new impulse to the search. But the only solution forthcoming was that submitted by the Vienna Congress in the shape of the Holy Alliance. This was foredoomed to failure in that it perpetuated a reactionary *status quo* and through a military alliance repressed human freedom. In the second half of the nineteenth century, Europe was spared any general war as a result of the armed truce brought about by the Brit.-sponsored balance of power system. Some progress at least toward international co-operation was made as a result of the suffering caused by the Crimean war; for international agreements for the adoption of more humanitarian standards in the conduct of war were concluded at the conference of Paris of 1864. The first major achievement in the sphere of international co-operation for avoiding the causes of war came, however, through the Hague Conferences of 1899 and 1907, held on the initiative of the Russian Gov. The agreements reached in these conferences provided machinery for the pacific adjustments of international controversies through arbitral tribunals set up at The Hague. Progress would have been made too in the field of international disarmament but for the unyielding opposition of the Ger. Gov. When the third Hague Conference was about to meet, the First World War broke out.

See *Handbook on the League of Nations*, 1920-21; *League of Nations Year Book*, 1925 and later; also H. Williams, *The League of Nations To-day*, 1923; H. G. Alexander, *The Revival of Europe*, 1924; G. G. Butler, *A Handbook to the League of Nations*, 1925; F. Alexander, *From Paris to Locarno and After*, 1929; Robert de Traz, *The Spirit of Geneva*, 1935; and official publs. of the League.

League of Ten Jurisdictions, see TEN.

Leagues, Historical. League is a term which signifies a political alliance or coalition. The name has been given to numerous confederations, such as the Aetolian and Achæan L. of ant. Greece; the various holy L., of which the most famous are those formed by Pope Julius II. against Venice in 1508 (often known as the League of Cambray), and against France in 1511; commercial L., like that of the Hanse tns. (see

HANSEATIC LEAGUE); the Solemn League and Covenant between England and Scotland in 1643, for the estab. of the Presbyterian Church; the Smalkaldic League in Germany; the Catholic League in France; and the Protestant Union and Catholic League in Germany, which heralded the Thirty Years war. After the peace of Westphalia, while France and Spain were still at war, Mazarin helped to form the League of the Rhine, which included powerful Ger. princes, and was aimed against the emperor. Many L. were formed during the latter part of Louis XIV.'s reign to check the growing power of France, the most important being the League of Augsburg (1686), which was formed after Louis had seized Strasburg and Ger. lands in the period of peace after the treaty of Nimègue, and the Grand Alliance (1701-2) headed by William III. of England. The most famous league of the eighteenth century was that of France and Spain, which were allied by a series of family compacts. The name has been adopted by various political associations, such as the Anti-Corn Law League, the Irish Land League, the Primrose League, the United Irish League, etc. See A. Sorel, *L'Europe et la Révolution française*, 1895-1904; Cambridge *Modern History*, 1903-10; C. Seligsohn, *Histoire politique*, 1814-1914, 1924-6; W. L. Langer, *European Alliances*, 1871-1890, 1931; B. Croce, *Europe in the Nineteenth Century*, 1934; A. J. Grant and H. V. Temperley, *Europe*, 1789-1932, 1935; H. Pirenne, *Histoire de l'Europe*, 1936; R. Seton-Watson, *Britain in Europe*, 1789-1914, 1937; and E. H. Carr, *International Relations, 1919-1936*, 1937.

League, The, or properly, the Holy Catholic L., was a coalition organised in 1576 by the duc de Guise to suppress the reformed religion in France by denying civil and religious liberty to the Huguenots, and particularly to prevent the accession of Henry of Navarre, a Protestant, to the Fr. throne.

Leake, William Martin (1777-1860), Brit. officer and archaeologist, b. in London. Having obtained the rank of lieutenant-colonel in the army, he travelled in Asia Minor, the Morea, and other parts of Greece, surveying the coasts and fortresses and making collections which are now in the Brit. Museum. He retired in 1823 and pub. sev. valuable works, among them being *Researches in Greece* (1814); *Topography of Athens* (1821); *Travels in the Morea* (1830); *Travel in Northern Greece* (1835); and *Numismatica Hellenica* (1859). See memoir by J. H. Marsden, 1864.

Leamington Priors, or Royal Leamington Spa, municipal bor. and health resort of Warwickshire, England, on R. Leam, 2½ m. from Warwick. The mineral springs (saline, sulphurous, and chalybeate), discovered 1874, are much frequented. Cooking ranges are extensively manufactured. Pop. 33,000. See C. James and S. Rowland, *Royal Leamington Spa*, 1947.

Leander, see HERO AND LEANDER.

Leap Year, also known as Bissextile, name given in England to every year

which has 366 days. In 46 B.C. the calendar was reformed by Julius Caesar. The solar year was settled at 365½ days, and under the new arrangement the Feb. of every fourth year was to have twenty-nine days instead of twenty-eight; the calendar thus taking a leap of one day every fourth year to balance its being six hours too short in each ordinary year. A L. Y. is divisible by four without a remainder, excepting in the case of those years ending in 00, of which only every fourth is a L. Y., i.e. those in which the number of the century is divisible by 4. See also CAL. D.R.

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N P G

EDWARD LEAR

Silhouette by an unknown artist

Lear, Edward (1812-88), Eng. writer and artist, exhibited at Royal Academy (1850-73). As a young man he was for a time art master to Queen Victoria. He early made ornithological drawings in the Zoological Gardens, and assisted Gould as draughtsman in his *Birds* (1832-36). L. produced his delightful *Book of Nonsense* (1846) for the grandchildren of his patron, the earl of Derby, and drew the plates to *The Knowsley Menagerie* for him. Ruskin said of *The Book of Nonsense* that it was 'first in the list of a hundred delectable volumes of contemporary literature.' It was this book rather than his paintings and drawings and other writings which gained him fame. Other works were *Journal in Greece and Albania* (1851), praised by Tennyson in his 'Lines to E. L. . .', *Journal of a Landscape Painter in Southern Calabria* (1852), *In Cornua* (1870), *More Nonsense Rhymes* (1871), *Laughable Lyrics* (1876). See Lush-

ington's memoir prefixed to *Poems* . . . 1889, *Letters*, ed. by Lady Strachey, 1907, and H. Jackson, *The Complete Nonsense of Edward Lear*, 1947.

Learning (mental process), see under PSYCHOLOGY.

Leasehold, in law a chattel (*q.v.*) real, not strictly speaking, an estate in land nor properly involving tenure, though the phrases 'estate for years' and 'leasehold tenure' are common. Ls are all of one kind, and, being personality (and not real property), the tenant, for however long the term is 'possessed,' not 'seised.' The very name term implies a definite date of ending, as opposed to the indefinite end of freehold estate by death or failure of heirs. Ls are (a) tenancies from year to year, (b) leases for years, (c) long terms. Tenancy from year to year arises (1) by operation of law, on demise at ann. rent without express term, or (2) by act or parties under verbal or written lease. It is determined by half a year's notice, which may be a 'customary half-year,' i.e. from one quarter day to the next, but always so as to end with the current year of the tenancy. Lease for years arises mostly by express demise, which if for more than three years and not at a rack rent must be in writing. Lease for years determines by efflux of period or on fulfilment of a condition (if any), e.g. lease to B for sixty years, if he shall so long live, or to C for twenty-one years, provided that on non-payment of rent, or breach of covenant, the lessor may re-enter, etc. It may also determine by merger and by surrender in fact (deed) or in law (accepting a new lease on different term before the old one expires). As to covenants on leases see COVENANT. Long terms are chiefly (1) terms of 100 to 1000 years, formerly created by way of mortgage as security for an advance; (2) terms created in the sixteenth century as a device for making a personal interest in land divisible as if simple; (3) terms in settlements (*q.v.*) limited to trustees as security for raising portions (*q.v.*), jointure (*q.v.*), annuities. These are the most frequent and the most important. No rent is reserved on (1) or (3) and on (2) only a nominal or 'peppercorn' rent, if any. On (3) there are, as a rule, no covenants. See also LANDLORD and TENANT.

Leasehold Enfranchisement. From the end of the eighteenth century and onward the practice of leasing land for ninety-nine years for building purposes became fairly general in London and other urban areas. The extraordinary increase in the built-over area in London resulted in an enormous increase in the value of the site and in many cases an equal extraordinary increase in the value of the premises for business and residence. The Bedford and Westminster estates in London are typical instances. When in the eighties and nineties of last century leases fell in the ground landlords required extremely heavy payments for renewals. Goringes in Buckingham Palace Road was an instance much discussed at the time. As a result of the public interest, it was mooted that freeholders should not

be permitted to lease land in this fashion, and that existing leases should be converted into freeholds at a fair valuation, much in the same way as under the Law of Property Acts, 1925, copyholds have ceased to exist. Up to the present nothing has been achieved in this direction, but the sting of the grievance is removed by the Landlord and Tenants Act, 1927, which provides for compensation of the tenant in respect of enhanced value of the property due to his business when the lease falls in unless it is renewed without fine.

Lease-Lend, see LEND-LEASE.

Least Squares. This is a rigid and mathematically laborious method of eliminating all errors (of various kinds) in a geodetical survey. Some preliminary considerations, involving questions of probability and the nature of errors, first call for attention.

A discrepancy is the observed difference between two like measurements, each of which contains an error that may or may not be appreciable. A discrepancy is not an error; a large discrepancy indicates a mistake in the observations; and a small discrepancy between two measurements is no criterion that the error is small. Errors of measurements are of three kinds: (1) mistakes; (2) systematic errors; and (3) accidental errors. (1) Mistakes are errors which originate in the mind of the observer, and arise from carelessness, inexperience, and mental confusion. (2) Systematic errors arise from known sources, and can be eliminated, as in the cases of incorrect length or stadia interval, imperfect adjustments, etc. (3) Accidental errors are those which remain after mistakes and systematic errors have been eliminated. They are due to imperfections of human sight and touch, imperceptible changes in the instruments, indeterminate variations of temp., pull, etc.

Whenever the value of a quantity is found by adding together the measurements of its sev. constituent quantities, any source of accidental error becomes a source of compensating error, since the sign is as likely to be plus or minus in each of the sev. measurements; but any source of systematic error becomes a source of cumulative error since, under certain conditions, systematic errors have always the same sign. Cumulative errors from any one source affect the total result in the same way, whereas compensating errors tend to balance one another. If the measurement of a quantity is greater than the true value of that quantity, the error is *plus*; if less than the true value, the error is *minus*. The total error is not due to any one cause; it is the algebraical sum of errors due to different causes.

Systematic errors have always the same sign and the same magnitude when the measurements are repeated under precisely the same conditions, and are not affected or reduced by taking the mean of all the measurements. On the other hand an accidental error is as likely to be plus as minus, and the accidental error of the mean is likely to be less than the accidental error of a single measurement.

Mistakes are detected by checking results with existing data and known conditions. Systematic errors are avoided or eliminated partly by systematic operations and partly by calculation and correction. Accidental errors cannot be eliminated; but experience has shown that they follow certain mathematical laws which are fundamental in the theory of L. S., viz.: (1) Small errors occur more frequently than large ones; (2) positive and negative errors are equally numerous; (3) very large errors never occur.

The probable error of a measured quantity is a magnitude such that the chances are even that the true error contained in that quantity is greater or less than the probable error. It is therefore the limit within which the probability is one half ($1/2$) that the truth will fall, since a probability expressed by $1/n$ indicates a certainty, a probability of $0/1$ an impossibility, and generally $1/n$ that the event will occur, on the average, once out of n times. The error of sighting a signal will vary with the nature of the signal, the distance, the atmospheric conditions, and the power and quality of the telescope. It may vary from 2 secs. to 10 secs. in ordinary work and may be taken at 6 secs. on the average with a 5-in. or 6-in. vernier instrument. In addition there is the error of centring the theodolite over the station. The exact ascertainment of the probable error in any geodetical survey requires a complicated series of computations involving the differential and integral calculus which cannot be detailed here. Probable error also determines the relative weight that should be given to different sets of observations, since the weights of observations vary inversely as the squares of their probable errors. It can be shown from the probability equation that the most probable values of a series of errors arising from observations of equal weight are those of which the sum of the squares is a minimum. This, applied in practice, is known as the method of L. S. In theory the rigid application of this method in one mass to a geodetical survey—all the angles being simultaneously considered—produces the most accurate results, but involves an incredible amount of mathematical work. In its application to the Ordnance Survey of the Brit. Isles the triangulation was divided into twenty-one 'figures,' each with its own staff of computers. The triangulation of the great Trigonometrical Survey of India was worked out, with complete thoroughness, by the method of L. S. See also GEODESY. See J. Whitlaw Junior, *Surveying*, 1902; A. R. Hinks, *Maps and Surveying*, 1923; and A. L. Higgins, *Higher Surveying*, 1914.

Leather (a word common to all Teutonic languages; Ger. *Leder*, Dutch *leer* or *leder*, Swedish *läder*, etc.; cf. Welsh *lladen*), name given to the imputrescible substance which is prepared from the skins of various animals by means of different processes. The skins of Mammalia consist broadly of two layers—the upper, containing

colouring matter and the roots of the hair, being cellular in structure, the thicker under layer being of fibrous structure. The upper layer is known as the epidermis, the under as the corium. The former is valueless from the tanner's point of view, and as it is decomposed much more easily than the latter by the action of alkalies, it is removed; the latter is soluble in water after protracted boiling, and yields a solution which gelatinises upon cooling. Moist skin putrefies on exposure to the air, and dried skin becomes hard and brittle. Before L. can be produced the skin must be cleansed thoroughly, and all the hair, together with the epidermis, removed. The skins used by the tanner are principally those of cattle, but those of horses, pigs, goats, kids, calves, sheep, crocodiles, snakes, lizards, seals, deer, and some fish are also employed. After they have been washed and dried skins must be soaked for a period for the fibres to absorb water and separate from each other. Loose flesh, blood, and dirt are scraped off with a blunt knife before the skins are placed in pits or paddles containing milk of lime. The cells of the epidermis are thus dissolved and the hair loosened, and the gelatinous fibres swollen and separated into their finer fibrils. This process occupies a length of time varying from one to three weeks, according to the nature of the skin, and the longer it is carried on the softer is the L. Ox and cow hides for 'sole' L. are sometimes 'sweated' instead of being exposed to the action of lime; they are hung in a warm moist atmosphere until putrefaction is begun, when the hair is removed. The fibres are not swollen by this method, and the resultant L. is of a very firm nature. Sheep skins are often 'sweated,' so that the wool may be removed without injury, and afterwards 'fined.' As substitute or assistants to lime, alkaline sulphides are sometimes used. After liming the skins are 'unhaired' by the mechanical action of a machine or by hand over a wooden beam. All hides go through the above process, with modifications of detail, but those required for softer Ls. are now treated in a different manner from the thick sole Ls. The latter are merely washed with water or a very dilute acid liquid in order to remove as much of the lime as possible. The hides for softer Ls., however, require to be brought into a softer condition, and all trace of lime removed. Previously fermenting infusions of excrement were used, but these have been superseded by artificial 'murrys' and 'bates' which are used to remove alkaline swelling and certain constituents of the skin not required in the finished L. and to ensure that the pelt is in a non-alkaline condition immediately prior to tanning. The prepared hides may now be tanned by the action of different materials. There are three main processes named according to the material used: (1) vegetable tanning; (2) tanning by means of chemical preparations; (3) 'chamoising,' or 'shamoising,' when oils and fats are the agents.

Vegetable Tanning.—Tannin is obtained

from various vegetable products, the choice depending partly on price and partly on the qualities thereof. The bark of the oak is one of the oldest tanning materials, but other products are largely used, including valonia (the acorn cup of the Levantine *Quercus agrifolia*), oak wood, and chestnut extracts, sumach, cutch, gambler, myrobalans, quebracho, etc. Vegetable tanning of hides can take up to two years but, more normally, occupies three months. Lighter skins are tanned in two to seven days.

Chemical Tanning.—(a) Chemical tanning is now largely used for light Ls., particularly for shoe uppers. The skins, after being steeped in a solution of common salt acidified with sulphuric acid, are transferred to a revolving drum containing a solution of basic chromium sulphate. The finer Ls. then undergo the process of 'fat-liquoring' in an oil emulsion. For chrome calf sulphated oil and egg yolk are used. (b) 'Tawing' is the term applied when aluminium salts are used, but this method is now usually included with other chemical methods employed. The more delicate kinds of L. are sometimes tanned by immersion in alum, salt, flour, and egg yolk. (c) Synthetic tans have increased in range and popularity during the last twenty years and are widely used for certain purposes, although they cannot replace the chrome and vegetable tanning processes. They produce a light tannage that does not dye too readily. Other solutions employed in tanning are those of formaldehyde and iron salts.

Chamoising.—'Wash L.' or chamois L., is prepared from the skins of deer, sheep, calves, etc., by tawing them with oil. The skins are prepared in the usual way and are then repeatedly rubbed with animal oil; the oil employed is usually a fish oil, to which a little carbolic acid is sometimes added. The oil is sprinkled on the skins and rubbed in by hand, after which they are placed in the tawing machine and exposed for some time to the action of the beaters. This process is repeated until there is no longer any fleshy odour from the skin. A process of gentle fermentation is then originated in the skins by exposure to a warm atmosphere; the pores are thus opened and the oil thoroughly penetrates the skin. Washing with a dilute warm caustic ley removes any excess of oil, and the skins are then dried and dressed.

Leather Dressing.—After tanning the L. is dried and sorted into its different classes according to its suitability. The first finishing process is shaving, in which the skins are thoroughly wetted down and put through a machine where a rapidly revolving cylinder reduces the substance of the skin and cleans off any remaining pieces of loose flesh. The skins are next dyed: this is done with artificial organic dyestuffs in revolving drums or paddles. The dyes are dissolved in boiling water and introduced into the drum through its hollow axle. To dry the skins excess moisture is mechanically removed in a striking-out machine and they are either

hung up as in the case of gloving Ls. or nailed out on drying boards. There are very many finishing processes, some of the most important being 'duffing,' 'striking,' 'spraying,' 'plating,' 'ironing,' 'graining,' 'glazing,' 'boarding,' etc. Dyed skins very often need to have the dyed colour levelled, and this is done by the application of pigment finishes, either on the table with a brush or plush pad or by air pressure spraying, the latter being quicker and more level. Morocco grain goats have a coat of cellulose sprayed on to them so that, after glazing to make the grain surface bright and sparkling, they can be soaked in water and grained in a wet condition. This graining is done on a table with a graining board and results in a well-known Morocco or 'hard grain' goat.

Hides for sole Ls require little finishing, a heavy rolling and brushing usually sufficing. Furniture hides are machine grained, pigmented, reglained, and finally sprayed.

Skivers are the grain split taken from a sheepskin in the limed condition, the flesh split is tanned with oil by pounding in the stocks and becoming what is known as chamois L. Skivers are usually tanned with sumach and then dressed into various finishes, but L., while the essential feature is fastness of the finish to perspiration, fancy Ls for covering card cases, photo frames, and many other articles. For most skiver finishes imitation grains are embossed on to the skin.

The essential feature of bookbinding Ls is that they should be dressed free from any material that might cause the L. to rot. Sulphuric acid is so often employed to assist in dyeing will shorten the life of the L. and cause rotting within a very few years. Iron salts should also be excluded from this type of leather. As often as possible bookbinding Ls are made with a straight finish (that is, without using any pigments) a glazed finish being produced by the aid of the friction of glass or agate on a top finish consisting of blood, egg, albumen and milk. Goat skins are also used for glazed kid as well as Morocco grain, a very much more mature skin being used for the latter although glazed kid is not necessarily made from kid skins.

Patent and enamelled Ls. are made by applying many successive coats of varnish in dust proof and heated rooms. Some can be applied to any type of L. Some imitation 'patent L.' finishes can now be produced by the application of two or three coats of very bright cellulose L. in use needs little care or attention. It should be kept clean and any natural oils removed ought to be replaced. Dirt and stains can be removed with a mild solvent such as carbon tetrachloride, applied with a rag and gently rubbed. Stubborn stains can be removed with petrol, but any natural oils removed should be replaced by rubbing with a rag dipped in olive oil. L. may stain and discolour if exposed to very strong sunlight. Most pigment finishes will rub off if scrubbed with water, but washable finishes are now available. See J. W. Waterer, *Leather*

in Life, Art and Industry, 1946, and H. A. Carnell, *Leather*, 1949.

Leather, Artificial, is a cotton or linen fabric treated with a solution of pyroxylin. The solvents usually employed are a mixture of alcohol and amyl acetate or one of wood spirit, acetone, and amyl acetate. An insoluble dyestuff is added to the solution, and after the material has been coated it is run through a machine with a pattern of 'grain,' which is impressed on the fabric. A L. can be used for some of the purposes served by real L. It does not crack easily, is pliable, and water-proof. One form of A. L. is known as 'rexine.'

Leatherhead, par and tn of Surrey, England 3 mi from Epsom on the Mole. There are brick works, tanneries, and breweries. Pop 6000.

Leather-jackets, see under CRAFT-PLA.

Leatherwork. Of recent years the art of creating goods from leather has become increasingly popular as a hobby, and indeed as a profitable enterprise for the amateur. Leather is pleasant and easy to handle, and a minimum of tools and very little skill are required to produce useful and decorative articles. L. falls roughly into three classes. The first and now it is probably the largest class is that which concerns itself with the making of handbags, purses and holdalls. There are many leathers which can be used for this purpose, the most popular being calf pigskin, cowhide, and embossed sheep skin. The simple basic tool required for handbag making are a good knife, steel ruler, cutting board, awl, and a six way plier punch. The materials for an average thonged handbag consist of (a) Leather (usually sold by the square foot). It is always wise to buy the best quality leather possible, and to reject skins with holes or other blemishes. (b) A skiver or lining leather. The skiver is attached to the leather with paste, and a press is used for drying. (c) Thonging. This is made in leather and plastic. (d) Glue. (e) A fastening. There is a wide variety obtainable. Studs are used a special fix can be purchased. The process of making a handbag consists of placing the pattern on the leather and skiver, cutting out, pasting them together, then sewing the bag by threading the thonging through a series of holes made by a plier punch. The edges of the leather which are to be punched and thonged are glued together and held in place with bull dog clips before being punched. Accurately combined with practice is needed to ensure that holes are a uniform distance apart, and to keep the stitches at an even tension. A stitch marker can be used if necessary.

The second class of L. is artistic L. This embraces to be and decorated leather, modelled, appliquéd, hammered and punched leather, blind tooling and gold tooling. This type of work is more specialised. It is particularly suitable for book covers and finely modelled bags, pockettes, comb cases, etc. The best skins for general artistic decorative work are calf or cowhide, calf is very malleable

Dull-surfaced cowhide is used for modelling. The tools required by beginners are also simple and few: a good knife, tracer, steel ruler, set-square, punch, and modelling tools.

The third category in amateur L. is glove-making. Hand-made gloves are always popular for many reasons, one of the most important being that individual fittings can be used. The most popular leathers for gloving are Cape tan, nappa, gloving lambs, coloured and washable does, and chamois leathers. A good pattern, a really sharp pair of scissors, needles, and good strong thread are adequate equipment for simple types of gloves. The secret of glove-making lies in the cutting and in the correct method of stitching. The 'stretch' must always be across the width of the hand, and it is essential to know where the stretch of a gloving skin lies when laying on the pattern. See Botty Dougherty, *Four Leatherwork*, 1947; F. R. Smith, *Leatherwork*, 1949; and R. L. Thompson, *Leathercraft*, 1949.

Leaven (through Fr. *levain*: from Lat. *levamen*, solace, *levare*, to lift up), substance which produces fermentation; also an underlying element or influence which produces a subtle change over anything. To the Heb. the word suggested corruption, hence leavened bread was not permitted in sacrifices. At the Feast of the Passover or of Massôth unleavened bread was eaten. In the N.T. the kingdom of heaven is compared to L. (Matt. xiii. 33), signifying a good influence. The idea of corruption is suggested in the reference to the L. of the Pharisees in Matt. xvi. 6.

Leavenworth, co. seat of L. co., E. Kansas, U.S.A., on the R. Missouri, 25 m. N.W. of Kansas city. Fort L. to the N. has a military prison and strong garrison. Coal is mined, and machinery, engines, bricks, furniture, flour, woollens, and vehicles are manufactured. Pop. 19,300.

Lebanon: 1 Co. seat of L. co., in S.E. Pennsylvania, U.S.A., 25 m. from Harrisburg; produces iron, copper, marble, coal. Manuf. include machinery, stoves, chains. Pop. 27,200. 2. Co. seat of Grafton co., New Hampshire, U.S.A., 50 m. N.W. of Concord. Machinery, woollens, and farm implements are manufactured. Pop. 7600. 3. Co. seat of Boone co., Indiana, U.S.A., 25 m. N.W. of Indianapolis. Manuf. washing machines, flour, etc. Pop. 6600.

Lebanon, or Lebanese Republic, one of the four constituent states of Syria. It comprises the sanjaks of Bekaa and N. L. Area 4300 sq. m. Pop. 603,000 (Christians, 343,000; Muslims, 263,000). The L. Mts. or Mt. L. occupy the greater part of the country, but there are sev. seaports, including Beirut (cap.), Tripoli, Sur (Tyre), and Sidon (Sidon). Olives, oranges, grapes, tobacco, and other crops are produced. Beirut and Tripoli are centres of the silk industry. Iron and lignite are the chief minerals. Coal, asphalt, and amber are also found. The inhab. are mostly Christians (Maronites and Gk. Catholics), but a few Druses

remain in the S. From 1861 to 1914 a Christian governor under the protection of the European powers was appointed. With the rest of Syria, L. came under Fr. mandate after the First World War; in 1920 it was proclaimed a state with its own assembly and president. In 1936 a treaty was arranged with France whereby L. was to attain independence after three years. In 1941 it was invaded by Brit. troops and, after resistance by the Vichy Fr. troops, surrendered. See also SYRIA.



E. Buchanan

CEDARS IN LEBANON

Lebanon, Mount (*Libanus*, the White Mt.), mt. chain of Syria and Palestine, parallel with the Mediterranean coast with spurs projecting to the sea, the Jebel-Liban or Jebel-el-Gharbi of the Arabs. It stretches from the Nahr-el-Kebir, near Tripoli, and Homs to the Litany (anot. *Leontes*), near Tyre, and the range is continued by the hills of Palestine, the biblical mts. of Naphtali, Ephraim, and Judaea. To the E. is the Anti-Libanus range (Jebel-esh-Sharki), with El-Buka'a (anot. *Cele-Syria*), a narrow, fertile valley, between. The average height of L. is 7000 ft., its chief peaks, Dahr-el-Kodib and Jebel-Makmal, being about 10,000 ft. The formation is limestone, sandstone, and basalt. Only a few groves of the once noted cedars now remain. The villa on the slopes of L. are favourite summer resorts for the people living in Beirut. See E. Fraas, *Drei Monate im Lebanon*, 1876; J. Porter, *Handbook for Travellers in Syria and Palestine*, 1875; and A. K. Hourani, *Syria and Lebanon*, 1945.

Lebbeke, tn. in the prov. of Flanders, Belgium. 6 m. N.E. of Alost. Engaged in agriculture and manuf. of furniture and lace, in tanneries and oil-mills. Pop. 11,800.

Lebda, see LEPTIN.

Lebedin, tn. in the Kharkhov Region of the Ukrainian S.S.R., 90 m. W.N.W. of Kharkhov, trading in tallow, sugar, and grain. It figured in Peter the Great's campaign against Mazepa and Charles XII. (1709). Pop. 14,000.

Lebedyan, tn. in the Vorenesk Region of the R.S.F.S.R., 110 m. W. by N. of Tambov. There is trade in cereals, fur, leather, livestock. Pop. 16,000.

Le Bel, Joseph Achille (1847-1930), Fr. chemist who shares with J. H. van't Hoff, a Dutchman, the honour of having originated an important theory of the arrangement of atoms in space. In 1893 he was presented with the Davy medal of the Royal Society.

Lebensraum, or Living-space, slogan of neo-Ger. Imperialism. The word really denotes two different things: (a) the alleged over-pop. of Germany in comparison with her arable soil -whence the need for territorial expansion; (b) the Ger. claim to control various neighbouring zones in the E., S.E., N., and W. of Europe—a claim based on strategic or economic interests.

Even if living-space be measured by relating the pop. to the area of the metropolitan country and all dependencies combined, it remains the fact that the shares of the various nations differ enormously. The position in 1939 was that the Ger. Empire comprised hardly 5 per cent of the world area but 4 per cent of the world pop.; the corresponding figures for Japan were 1.5 and 6.4 per cent. Other 'have-haves' included China, Holland, Poland, Turkey, and Spain. The Brit. Commonwealth of Nations, with 26 per cent of the world area and 24.6 per cent of the world pop., had only its due share and, similarly, the U.S.A. Most other nations, including Italy, were 'have's,' i.e. had more than the average 'living-space.' It is noteworthy, however, that though the Ger. Empire was the most densely settled empire in the world, the opinion has never prevailed in Germany that the country was over-populated. Indeed for years before the Second World War the emigration of 'Aryans' was practically forbidden. Italy too restricted emigration and, like Germany, even adopted measures to increase the birth-rate. 'What,' asked Mussolini, 'are 40,000,000 Italians against 90,000,000 Germans and 200,000,000 Slavs? Italy, if she wants to count for anything, must have at least 60,000,000 inhabitants by the beginning of the second half of this century' (speech in the It. Chamber, 1927). At that time emigration was restricted, but later, in accordance with the expansionist policy, the It. Gov. tried to foster emigration from the densely settled mother country to the thinly settled African colonies. In 1939 Germany no longer, even if ever, regarded herself as overcrowded. She sought no outlet for her pop. (hardly any Ger. ever settled in Germany's former colonies), she recruited labourers from her new territories in Europe and continued to restrict emigration. The assumption sometimes made that the Ger. claim to restoration of colonies was related to living-space is untenable. Hitler, at first, contemplated only an extension of Germany's living-space in Europe. The argument for the return of the Ger. colonies was and remains that Germany wanted access to tropical products—a hollow claim in view of the small proportion of her imports which she obtained from her colonies; and as a fact the share of Germany in the imports of the

Brit. Cameroons, in 1939, was no less than 48 per cent. The degree of self-sufficiency in foodstuffs was much higher in Germany than in many other countries possessing no colonies. Her colonies could provide next to no foodstuffs and, judged by Ger. requirements, only an equally negligible fraction of raw materials could be produced by the colonists except by forced labour, when the output would not have been very much greater. Germany's reason for demanding the return of her former colonies overseas was principally to further her strategic situation for a world war; but in any case the doctrine of trusteeship, familiar in Brit. colonial administration, had, and would have had, no place in the Ger. dispensation. From the economic standpoint Germany's demand, had it been assented to, would only have led to the exploitation of the indigenous pop. as was the case in Europe during the Second World War. 'Even if she recovered the sovereignty over those territories, and even if she conquered in central and eastern Europe an area five times as large as her present area, her "living-space," as she defines it, would still be grossly inadequate' (Kuczyński). See also 'MEIN KAMPF.' See C. Schmitt, *Grossraum gegen Universalismus*, 1939, and R. R. Kuczyński, 'Living-space' and Population Problems, 1939.

Leblanc, Nicolas (1742-1806), Fr. chemist who invented an important method of manufacturing washing soda from common salt. This method is now obsolete but was worked for over a century. L. was ruined by the revolution and finally committed suicide.

Lebœuf, Edmond (1809-88), marshal of France, b. in Paris. He entered the army in 1832, and after services in Algeria was made colonel. He directed the Fr. siege operations around Sebastopol in the Crimean war and was made brigadier-general. He rose to be commander-in-chief of the artillery and served with distinction at the battle of Solferino. In 1869 he became minister of war and the following year marshal. Before the Franco-Ger. war he claimed France to be in perfect readiness, so that he was largely blamed for the disasters of his country. After resigning he fought bravely at Noyseville and Gravelotte, and was taken prisoner at Metz.

Le Bossu, René (1631-80), Fr. writer and critic, b. in Paris. He joined the canons-regular of St. Geneviève in 1649, and taught the humanities in various schools. His *Traité du poème épique* (1675) won for him a European reputation. It was trans. into Eng. by 'W. J.' in 1695, and there was a later version in 1719. Its thesis was that the subject should be chosen before the characters, and the action arranged independently of them; it was known to Dryden, Addison, and Pope. See memoir by Le Courayer, prefixed to the 6th ed. of the *Poème épique*.

Lebrat, see ALBERT.

Lebrija (anc. *Nébrissa*), tn. of Seville prov., Spain, 16 m. from Jerez. There is

a ruined castle. It trades in cattle, grain, wine, and oil. Pop 11,000.

Lebrun, Albert (b 1871), Fr statesman and former president of France, b at Mercy le Haut, Meurthe-et-Moselle. After being a mining engineer and prof he became a deputy of the moderate right in 1900. He was minister of colonies during the Agadir incident (qv). In 1932 he became president of the republic, averting the 1934 crisis of the Paris riots by calling a national gov. In 1940 his authority was superseded by that of Pétain (qv) and he was arrested by the Germans in 1943. In 1944 after his release he retired from public life.

Le Brun, Charles (1619-90), Fr historical painter, pupil of Vouet. He designed many of the decorations at Versailles (1679). In 1645 he helped found the Académie etab the Fr school at Rome, became court painter to Louis XIV and director of the Gobelin manufactory (1660). His works include 'Massacre of the Innocents,' five pictures illustrating the hist of Alexander (1661-66), in the Louvre), 'The Family of Darius,' 'The Repentant Magdalen.' See *Blanc Histoire des Peintres*, 1849-75; *Bavie, Historical and Critical Dictionary*, 1696, also lives by Genéve, 1885, and Jouin, 1890.



W. F. Mansel

ELISABETH VIGÉE LEBRUN

(Self portrait)

Lebrun, Marie Louise Elisabeth (née Vigée) (1755-1842), Fr. portrait painter. She painted her first portrait of Marie Antoinette (1779), and was admitted to the Académie (1783) with 'Peace Bringing back Plenty.' She travelled much in Europe. Her portraits include Lady Hamilton, Mme de Staël, herself and her daughter, J. Vernet, Lord Byron, the Prince of Wales, Marie Antoinette

and her three children. She pub. her *Souvenirs* about 1835.

Le Caron, Henri (1841-94), adopted name of Thomas Miller Beach, Brit secret service agent, b at Colchester. He served with the N. Army in the Amor civil war (1861-64), and afterwards, having given information to the Brit Gov concerning the Fenian plot against Canada, he was employed as a military spy. The Painell Commission of 1889, when he was brought forward as a witness, put an end to his exciting career. See his *Twenty-five Years in the Secret Service* (1892).

Le Cateau, see CATIAU, LE BATTIF OF Lecce (ancient Lupiae), tn and archiepiscopal see of Apulia, cap of the prov of L. S. Italy. 24 m S. J. by rail of Brindisi. The church of S. Nicola (13th c) is also built by the Lancers in the twelfth century. There is also the cathedral of S. Oronzo and the Prefettura with its valuable collection of old pottery. L. trades in oil, wine, tobacco, woollens etc. Pop 49,800. The prov. has an area of 2623 sq m and a pop of 527,000.

Lecco, tn in the prov of Como, Italy, 15 m S. by N. of Como, standing on an arm of the lake. The tn manufs iron, brass, and copper goods, has silk and cotton factories and oil mills. Pop 31,500.

Lech, one of the tribes of the R. Danube, about 170 m long. It rises in Vorarlberg and flows through Bavaria in a northerly direction, joining the Danube near Donaueschingen.

Lechytza, see LECHYTZA

Lecky, William Edward Hartpole (1818-1903), Eng. historian and philosopher, b near Dublin, his family being of Scottish origin. Educated at Armagh School, Cheltenham and Trinity College, Dublin. He attributed much of his success to his study of the works of Bishop Butler, Hobbes, Bacon, Whately, and Buckle. His earliest pub. *Religious Tendencies of the Age* (1860) revealed a spirit of tolerance and a liberal outlook, as also did his *Declining Sense of the Miraculous* (1863), which work later formed the early chapters of his *History of Rationalism* (1865). This latter book put L. in the front rank as an author who knew how to present hist and philosophy with unity of conception, power of thought and a method of cultural evolution. The book indeed is a striking contribution to the hist of the human mind and of human society. His *History of European Morals* (1869) is an expansion of the earlier work, and purports to show that moral intuitions are susceptible of development and that hist demonstrates continual progress in moral concepts. This work was adversely criticized by the orthodox, but met with as great a success as its predecessor. He now worked unremittingly at the collation of material for his great work, *The History of England in the Eighteenth Century*, one purpose of which was to refute what he described as the anti-French calumnies of Eroude. The 8 vols. were pub between 1878 and 1890 and were described by Lord Acton as 'fuller of

political instruction than anything that had appeared for a long time.' The work certainly set the seal on L.'s fame as an impartial historian, thorough in research, and able to present summaries and deductions in philosophical language and with the soundest judgment. Other works: *Leaders of Public Opinion in Ireland* (1861) (revised, 1903); *Democracy and Liberty* (1890); *The Map of Life Conduct and Character* (1899); *Historical and Political Essays* (1908). He was M.P. for Dublin Univ. in 1895 and 1900. One of the original members of the Brit. Academy. See memoir by Mrs. L., 1909, and life by J. J. Auchmuty, 1946.

Leclair, see under EDWARDSVILLE.

Leclanché Cell, see under CELL.

Leclerc de Hauteclouque, Philippe (1902-1947), Fr. soldier, b. of an old Picardy family, his true name being Philippe, Vicomte de Hauteclouque. Passed out of St. Cyr, 1924. At the outbreak of war in 1939 he was a captain. Wounded and taken prisoner, he escaped to England and offered his services to Gen. de Gaulle, adopting the name of L. to avoid reprisals against his wife and family; and at the end of the Second World War he changed his name to L. de H. Sent by de Gaulle to the Cameroons, he played a prominent part in setting up the new regime under the Free Fr. movement. His first great military exploit was the capture of the Kufra oasis (g.v.) during Gen. Wavell's offensive, but he had to retreat when the Brit. retreated. The march of his motorised column from Fort Lamy (g.v.) in Fr. equatorial Africa to join the Eighth Army (g.v.) at the Mareth line was a magnificent achievement and one which had great moral value to France. Its *déclat* should not, however, obscure the fact that it was the outcome of organising power and immense labour, necessitating the transport of vehicles and heavy stores up the Congo for a distance of 1000 m. After the N. African campaign he came to England to raise and train the famous Fr. 2nd Armoured Div. and indeed it was a brilliant divisional commander that he will be remembered. His div. took part in the invasion of Normandy (1944) and made its spectacular dash to liberate Paris (Aug. 24-25). Later the div. joined the Fr. Army, which had landed in the S. of France from the Mediterranean, and were the first troops to enter Strasbourg (Nov. 23). For a time in 1945 L. was governor of Strasbourg. Later in that year he was sent to Fr. Indo-China as commander-in-chief, where his stern measures against the Viet Nam insurgents excited criticism in left wing quarters. He was killed on Nov. 28, 1947, in an aircraft accident in Fr. N. Africa, where he had been inspector of the forces of land, air, and sea since April 1947. His leadership and achievements did much to restore Fr. confidence in the glories of the Fr. Army, which had suffered eclipse in 1940, a reputation which was enhanced by youth and charm (see *The Times*, Nov. 29, 1947. See *Le Général Leclerc vu par ses compagnons de combat* (Paris) 1948.

Le Clerc, Jean (1657-1736), Swiss theologian, b. at Geneva, and after completing his studies became a prof. at the Remonstrant seminary at Amsterdam, 1684. Among his numerous works are *Bibliothèque universelle et historique* (1686-93); *Bibliothèque choisie* (1703-13); *Arts Crutici* (1712-30); and *Bibliothèque ancienne et moderne* (1714-28).

Le Clerc, Sebastian (1637-1714), Fr. designer and engraver, b. at Metz. In 1694 his *Géométrie pratique* in eighty plates attracted the notice of Colbert, who procured for him a post in the Gobelins tapestry manufactory. Le C. also pub. a number of scientific treatises and a *Traité d'architecture* (1714). See C. A. Jombert, *Catalogue raisonné de l'Œuvre de Sebastian Le Clerc*, 1774.

Lecluse, see CLUBIA.

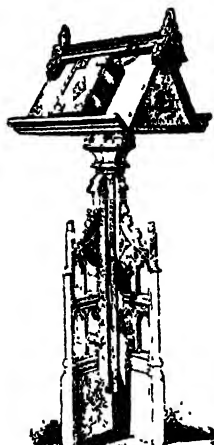
Lecoq, Alexandre Charles (1832-1918), Fr. musical composer, b. in Paris; pupil of Bazin, Halévy, and Benoist. His first operetta appeared in 1857, *Le Docteur miracle* (which won, at the same time as Bizet, a prize offered by Offenbach, 1857), followed by many others, notably *Fleur de thé* (1868), *Les Cent Vierges* (1872), and best known of all, *La Fille de Mme Angot* (1872), produced in Paris and London (1873), which was never equalled in his subsequent pieces, including *La Petite Mademoiselle* (1879), *Le Jour et la nuit* (1881), *Le Cygne* (1899), and *Yetta* (Brussels, 1903).

Lecoq de Lisle, Charles Marie (1818-1894), Fr. poet, b. in the Is. of Réunion. He settled in Paris in 1846. His first work, *La Vénus de Milo* (1848), gained him many friends, especially amongst the devotees of classical literature, and he produced his *Poèmes antiques*, which contain some of his best work, in 1852. These were followed by *poèmes et Poèmes* (1855); *Le Chemin de la croix* (1859); *Poèmes barbares* (1862); *Les Erinnyes*, a tragedy after the Gk. model (1872); *Poèmes tragiques* (1884); and *L'Apollonide* (1888). Besides this he trans. Theocritus, Anacreon, the *Iliad* and *Odyssey*, Hesiod, Eschylus, Horace, Sophocles, and Euripides. *Derniers poèmes* appeared posthumously (1895). His poems had a great influence on the young poets of his time, and are marked by classic regularity and faultlessness of form. He was made assistant librarian at the Luxembourg in 1873, and succeeded to Victor Hugo's chair at the Academy in 1886.

Le Corbusier (pseudonym of Charles Edouard Jeanneret) (b. 1887), Swiss architect, b. at La Chaux de Fonds, near Neuchâtel. Settled, 1916, in Paris. For a while a painter of the modern school. Then he and his cousin, Pierre Jeanneret, set up together as architects, professing to discard all style, in a purely engineering spirit. However, Le C.'s books (in the Fr. paragraphic style) disclose a hankering after 'proportion' and 'variety': *Vers une architecture* (1925), *Urbanisme* (1925); trans. as *The City of To-morrow*, (1929); *L'Art décoratif d'aujourd'hui* (1928); and *Une Maison—un palais* (1928).

Le C.'s advanced architectural theories have never been accepted without reserve.

In Moscow, New York, and Rio de Janeiro his work has been criticised as warmly as it has been praised. In his own country he is meeting with both fierce criticism and enthusiastic support for a gigantic new building in Marseilles which he styles his 'vertical community.' More like a small tn. than an apartment building, it stands in the middle of 8 ac. of gardens



AN OLD LECTERN IN BURY CHURCH,
HUNTINGDONSHIRE

and will house 1600 persons in 330 separate flats. A shopping centre will occupy one entire storey, including food shops, a chemist, laundry, post office, hairdresser, florist, and newsagent. Many other amenities are to be provided on the roof—a 330-yard running track, a solarium, gymnasium, crèche and youth club. The building's twenty-seven storeys will be supported, 23 ft. clear of the ground, on thirty-six concrete pylons, and the whole structure will be 455 ft. long, 80 ft. wide, and over 200 ft. high. In this 'vertical community' Le C. is not merely trying to provide the maximum material comfort; indeed the whole project embodies and exemplifies in concrete form the results of his entire architectural experience and theory. For him its value lies in its contribution to the fulfilment of his own philosophy of life and happiness. Criticism, however, has taken a practical form and work on the building was stopped by the Committee of Public Hygiene, who were not satisfied with the lighting and ventilation of the lower floors, the lighting arrangements in the corridors, and the air-conditioning system. In the result, however, after the committee's reports had been sent to the minister of reconstruction and town planning, the committee's decision was reversed. See also ARCHITECTURE.

Lecouvreur, Adrienne (1692-1730), Fr. actress, b. near Châlons. After making her début in 1717 she was received into the Comédie française, where she attained an extraordinary popularity. She was extremely fascinating, but her success was largely due to the naturalness of her delivery and her simple pathos. Her death was supposed to have been due to poison administered by a rival, the Duchess Bouillon. Scribe and Legouvé's play, *Adrienne Lecouvreur* (1849), gives an account of her life.

Le Creusot, see CREUSOT.

Lectern (Fr. *lutrin*, It. *leggio*, Ger. *Lesepult*), reading desk in the Anglican Church, practically confined to the reading of lessons. It came into use in the fifteenth century, and was made either of wood or metal, the commonest type being in the form of an eagle with outspread wings, on which the book rested, raised on a moulded stem and carrying three projecting ledges with lions on them.

Lectiary, book containing portions of scripture to be read during the course of the year in the public service of the church. The custom of reading the books of Moses in the synagogues on the Sabbath day was an ant. one, the addition of lectures (readings) being of later date. In the Anglican Church the form of L. was fixed in 1661 and revised in 1867. In 1879 a new table of lessons was drawn up and became obligatory.

Lectures (Lat. *lectura*, from *legere*, to read; compare Fr. *lecture*), discourses or addresses of a formal nature, given from an educational point of view, to distribute information on a variety of subjects. Lectureships were endowed at most univs. with a view to spreading the particular opinions of the founder, and nowadays they are attached to practically every branch of learning, though formerly they were of a theological or religious kind only. Of the latter variety are the Bampton, delivered at Oxford, the Hulsean at Cambridge, the Boyle at London, the Hibbert (in comparative religion) at Oxford and London, the Bonnellian at Dublin, and the Gifford and Burnett L. in connection with the Scottish univs. Of more recent date are the 'Univ. Extension' L., inaugurated in 1885 at Oxford, mainly owing to Max Müller. Cambridge also has a Univ. Extension scheme, with centres at Derby, Exeter, Hull, Newcastle, and other important tns., and the London Univ. has a similar scheme.

Lecythis, typical genus of the Lecythid, an order of epigynous exogens, allied to the Myrtales. Some forty species are known, mostly giant trees of Brazil, Venezuela, and the Guianas. The great woody pericarps of the various species are used by the natives as drinking vessels. The seeds are large and eatable but leave an unpleasant bitter taste. *L. ollaria*, the sapucaia, is the largest tree in the Brazilian forests (see also SAPUCAIA NUT). It is also known as monkey-pot. The bark is cut by the Indians into thin layers and used as wrapping for cigars or for cigarette wrappers.

Leda, in Gk. mythology a daughter of

Thestius and Eurythemis, and wife of Tyndareus, king of sparta. Zeus visited L. in the form of a swan, and by him she became the mother of Castor and Pollux. The story is recounted by Homer, Hesiod, Euripides, Ovid, and other anc. writers.

Ledbury, tn. in Herefordshire, England, at the S. extremity of the Malvern Hills. Fine elder orchards and hop grounds are in its immediate neighbourhood. There is a fine timbered market house of 1633. Pop. 3300.

Lede, Belgian tn., situated in E. Flanders, 3 m. N.W. of Alost. There is agriculture and the manuf. of linen, lace, tobacco, and chicory. Pop. 8600.

Ledeberg, suburb of Ghent, Belgium, engaged in floriculture, cotton-mills, manufs. of machinery, chemicals, sugar, and dye-works. Pop. 12,200.

Ledochowski, Mieczyslaw, Cardinal Count (1822-1902), Polish ecclesiastic, b. in Gorki in Galicia. He was educated at Warsaw, finishing at Rome, where he was ordained in 1845. In 1845 became archbishop of Gnesen-Posen, and in 1876 was made a cardinal. He championed the cause of his religion against the gov., and suffered imprisonment in 1873 during the Prussian and Ger. *Kulturkampf*, on refusing to lay aside his office. Being released in 1876 he went to Cracow, but on being expelled from Austria went to Rome, finally resigning his archbishopric in 1885. In 1892 he was made prefect of Propaganda.

Ledru-Rollin, Alexandre Auguste (1807-1874), Fr. politician, b. at Fontenay. He was admitted to the Bar in 1830, and became conspicuous as a democratic agitator. In 1846 he pub. *Appel aux travailleurs*, in which he advocated universal suffrage. On the outbreak of the revolution in 1848 he became a member of the provisional gov., aiming at the presidency, against Louis Napoleon, later in the year. On his defeat he came to London, where he joined 'Le Comité de la République universelle,' returning to France after an exile of twenty years. He wrote *De la décadence de l'Angleterre*, besides many contributions to Fr. jurisprudence. His *Discours politiques et écrits divers* appeared in 1879.

Ledward, Gilbert (b. 1888), Eng. sculptor, b. in London, was the second son of Richard Arthur L., sculptor. He obtained the first Brit. School of Rome scholarship in sculpture, the R.A. travelling studentship and gold medal, both in 1913. In the First World War he was a lieutenant in the Royal Garrison Artillery. He designed, with H. Chilton Bradshaw, the Guards' Div. memorial on the Horse Guards Parade. He also designed war memorials in five Eng. tns. and at Grahamstown (S. Africa), as well as the Marquis of Ormonde memorial in Kilkeny Cathedral, the Dean Spence memorial in Gloucester Cathedral, the Alfred Milner memorial in Westminster Abbey, and bronze statues of King George V. at Kampala, Uganda (1939), and at Nairobi, Kenya (1940). From 1928 to 1929 he was prof. of sculpture at the Royal College of Art.

Ledyard, John (1751-88), Amer. traveller, b. at Groton, Connecticut. In 1776 he accompanied Capt. Cook on his last voyage, on his return publishing a jour. of the voyage with an account of Capt. Cook's death. In 1786 he set out on an expedition to the Arctic regions, arriving at Irkutsk after a journey of great hardships, where he was arrested as a spy and forbidden to re-enter Russia. Returning to London, almost immediately he started on another expedition to the interior of Africa, but d. at Cairo.

Lee, Ann (1736-84), Eng. Quaker b. at Manchester. After persecution as a Quaker and religious eccentric she left for America, and in 1776 founded the Amer. Society of Shakers.

Lee of Fareham, Arthur Hamilton Lee, first Viscount and Baron (1868-1947), Brit. soldier and parliamentarian. He was prof. of strategy and tactics at the Royal Military College, Kingston, Canada, 1893-98, and Conservative M.P. for the Fareham div. of Hampshire, 1900-18. He was civil lord of the admiralty, 1903-5, director general of food production, 1917-1918, minister of agriculture and fisheries, 1919-21, and first lord of the admiralty, 1921-22. In 1921 he gave 'Choquers estate, Buckinghamshire, for a country residence for prime ministers. He was created viscount in 1922. His autobiography, *A Good Innings, 1868-1940*, was pub. in 1940.

Lee, Fitzhugh (1835-1905), Amer. general, b. at Clermont, Virginia. He served throughout the Virginian campaigns of 1862 and 1863, becoming major-general the same year, and led the last charge of the Confederates at Farmville in 1865. He was governor of Virginia, 1886-90, consul-general at Havana, 1896, and military governor of Havana and Pinar del Rio, 1899. He wrote *Robert E. Lee* (1894), and *Cuba's Struggle Against Spain* (1899).

Lee, Frederick Richard (1799-1879), Eng. landscape painter, b. at Barnstable. He became a student of the Royal Academy in 1818, and first exhibited in 1824. He was elected an academician in 1838. His works were chiefly of Eng. scenery, the cattle in many of them being painted by Sidney Cooper. Some of his pictures are 'The Cover Side' (dog, etc., by Landseer), 'Showery Weather,' 'Evening in the Meadows,' 'A River Scene' (all of which are in the National Gallery, London), 'Near Redleaf,' 'Gathering Seaweed,' 'Distant View of Windsor' (Victoria and Albert Museum).

Lee, Henry (1756-1813), Amer. soldier known to every Amer. schoolboy as 'Light-Horse Harry Lee,' was b. near Dumfries, Virginia. He graduated from Princeton, and when the Amer. colonists began their war for independence served for a time under Washington. Later given independent command of a mobile troop, he captured the fortress of Paulus Hook from the Brit., and then distinguished himself by his dash into the Carolinas. After the war had been won he became governor of Virginia, and took a leading part in suppressing the so-called

whisky rebellion in Pennsylvania. In Congress he delivered the funeral oration on the death of Washington. He was the father of Robert E. Lee (q.v.), commander-in-chief of the forces of the S. Confederacy.

Lee, Nathaniel (c. 1653-92). Eng. writer of drama. He produced his first play, *The Tragedy of Nero, Emperor of Rome*, in 1675. He next pub. *Sophonisba* (1675) and *Gloriana* (1676), but he made his reputation by *The Rival Queens*, a blank verse tragedy in 1677. Many others followed, his last being *The Massacre of Paris* (1689). L. also collaborated with Dryden in *Edipus* (1679) and *The Duke of Guise* (1682). His works were collected in 3 vols., in 1722 and 1734.

Lee, Richard Henry (1732-94), Amer. statesman, was b. at Stratford, Virginia, being a scion of an old Virginia family of Cavalier stock. He was educated in England and returned to his country in 1752, having inherited large landed estates. He served in the Virginia legislative assembly and distinguished himself by leading the opposition to what he deemed the arbitrary acts of the Brit. governing authorities. He was a delegate to the first Continental Congress held in Philadelphia in 1774, and proposed the first and second addresses to the Brit. people. In the Congress of 1776 he introduced the resolutions which brought about the writing of the famous Declaration of Independence, mainly the product of his fellow Virginian, Thomas Jefferson. L. subsequently served a number of terms as Congressman and Senator.

Lee, Robert (1804-68), Scottish prof. and theologian, was b. at Tweedmouth, Northumberland. He was educated at St. Andrews Univ., and was minister of the old Greyfriars church, Edinburgh (1843-68). He tried to extend freedom of worship and thought within the Church of Scotland, and in order to improve the form of public worship introduced stained-glass windows in 1857 and an organ in 1864. He pub. *The Reform of the Church in Worship, Government, and Doctrine* (1864), as well as many other theological works and books of prayers.

Lee, Robert Edward (1807-70), Amer. soldier, perhaps the greatest commander the Amer. civil war produced, and acknowledged by European military critics to be one of the greatest generals of modern times, was b. at Stratford, Virginia. The L. family, originating in Shropshire, was among the early settlers of Virginia. L. himself married Mary Custis, daughter of the adopted son of George Washington, so that the young couple really represented the very flower of S. aristocracy. Graduating second in his class at West Point Military Academy L. won rapid promotion, until by 1838 he was a captain in the engineers corps. He won high praise for his services during the siege of Vera Cruz, and was wounded during the storming of the heights of Chapultepec. The close of the war found him a colonel, and in 1852 he had command of the U.S. Military Academy. When the civil war broke out he had much searching of heart. A lover of the Union and opposed to secession, he

nevertheless felt that he owed his first allegiance to the state which had given him birth and so highly honoured his ancestors.

In May the Confederacy named five generals, of whom L. was only third on the list. He was without any command at first, being engaged as military adviser to President Davis and to superintend the defences of Richmond and the coast defences of Georgia and S. Carolina. However, the severe wounding of Gen. J. E. Johnston, his intimate friend and classmate, caused L. to be placed in charge of the troops defending Richmond. In a brilliant seven days' series of battles he defeated the Union troops and wrecked the Peninsular campaign of Gen. McClellan. Later he crossed the Rapidan R. and defeated Gen. Pope at Manassas. He made an ill-advised invasion of Maryland, and had to retreat across the Potomac. He gained brilliant victories at Fredericksburg and Chancellorsville (1863). In response to pressure from public opinion in the Confederacy, he marched his armies into Pennsylvania, thereby giving the S. hope that the war would be transferred to N. soil. The bloody battle of Gettysburg followed. Though successful the first day L. was defeated on the succeeding days, and retreated to Virginia. The closing years of the war, 1864-65, found L. pitted against Gen. U. S. Grant in an ever increasing numerical inferiority. Antietam was a drawn battle, but Cold Harbor was a victory for the Confederates. When Grant took Petersburg in April 1865, and Richmond fell a few days later, L. recognised the inevitable by surrendering to him at Appomattox Courthouse, Virginia, with his ragged and exhausted army of 28,392 men. He had to start life all over again, and his beautiful home at Arlington, overlooking Washington, had been expropriated. He accepted the presidency of Washington College, Lexington, Virginia, later to be known as Washington and L. Univ. He d. there on Oct. 12, 1870. Between L. and Grant there was no bitterness. Great soldiers both they recognised that each had done his duty as he saw it. L. was the greater strategist and the greater master of the arts of war. The wonder was how, with inferior numbers and supplies, he managed to keep his army intact and fighting for so long a period. Apart from his skill as a commander there was something about his personality that appealed to his men. See W. H. Taylor, *Four Years with General Lee*, 1878; A. L. Long, *Memoirs of Lee*, 1876; R. E. Lee (his son), *Recollections and Letters*, 1904; and J. F. C. Fuller, *Grant and Lee*, 1933; also lives by F. Lee, 1895; W. P. Trent, 1899; P. A. Bruce, 1907; G. Bradford, 1912; F. Maurice, 1930; D. S. Freeman, 1934; and B. Moses, 1937.

Lee, Sir Sidney (1859-1926), editor of the *Dictionary of National Biography* from 1891, was b. of Jewish parents in London. Educated at the City of London School and Balliol College, Oxford, he became assistant editor of the *Dictionary of National Biography* in 1883 and joint

editor with Sir Leslie Stephen 1890-91. L. contributed numerous articles, and wrote the memoir of Edward VII. (1912). Other works of his are *Stratford-on-Avon from the Earliest Times to the Death of Shakespeare* (1885, new ed. 1906); *A Life of William Shakespeare* (1898, illustrated ed., 1899; popular ed., 1900, 1907); *A Life of Queen Victoria* (1902, new ed., 1904); *Elizabethan Sonnets* (1904); *Great Englishmen of the 16th Century* (1904); *Shakespeare and the Modern Stage* (1906); *The French Renaissance in England* (1910); *Principles of Biography* (1911, Leslie Stephen lecture at Cambridge). He was prof. of Eng. literature at E. London College, Univ. of London, 1913-24, and dean of the faculty of arts in the univ. of London.

Lee, William, Eng. inventor, was b. at Calverton, Nottinghamshire. Graduating from Cambridge he was ordained in 1582. About 1589, whilst holding the cure at Calverton, he invented the stocking-frame (see Hosiery). This machine he later improved, and in 1598 produced silk stockings. The opposition of the hand knitters drove him abroad and he d. in Paris.

Lee, dist. of London, in the bor. of Lewisham, 7 m. S. of the city on the S. E. London railway. There is a chapel built by Christopher Boone, and the Merchant Taylors' almshouses. The manor house, formerly a residence of the earl of Northbrook, is now a public library. Pop. 21,000.

Lee, term implying shelter or protection, usually from wind. It occurs principally in nautical expressions. Thus the *L. side* of a vessel (as contrasted with the windward side) is the opposite side to that on to which the wind is blowing—the sheltered side; *lee-way* is the sideways drift from a desired course occasioned by wind; a *L. shore* is a shore to leeward of a vessel, and therefore a shore on to which the wind is blowing from the sea.

Leech, John (1817-64), Eng. caricaturist, was educated at Charterhouse, London. In 1835 he began to exercise his gift of caricature, and in that year pub. *Sketchings and Sketches by A. Pen.* In 1837 he illustrated Theodore Hook's *Jack Brag*, and three years later, with Leigh, produced a *Comic Latin Grammar* and a *Comic English Grammar*. In 1841 *Punch* was founded and L. became its prin. artist and cartoonist until his death. It is said that he contributed no less than 3000 drawings to its pages. This, however, did not by any means exhaust his activities, and there is to his credit a long list of books which he illustrated, including Dickens's *Christmas Stories*; a Heckell's *Comic History of England*, and the *Bon Gaultier Ballads*. More refined than Cruikshank he was scarcely second to that great master, except in the range of his subjects. See life by W. P. Frith, 2nd ed., 1891, and G. Tidy, *A Little About Leech*, 1931.

Leeches. Leech is the common name of any class of the Hirudinea, a class of elongated, worm-like animals belonging to the group Annelida. They can be dis-

tinguished by their sucking disks, which are situated at each end of the body if there are two, and at the posterior extremity if only one is present. They occur in all parts of the world, and generally live in water, frequenting streams, ponds, marshes, and the sea, but land L. are also found, e.g. in Ceylon. Among aquatic forms the most familiar is the horse leech (*Hemopsis sanguisuga*), which inhabits fresh-water ponds and ditches, and unlike some other L. has a few small teeth of blunted form. The medicinal leech is known by its minutely ringed body, and by the presence of an anterior and posterior sucker. Its mouth in the anterior sucker contains three teeth, which are minutely serrated so that each tooth looks like a saw. It is these teeth which make the leech so useful in blood-letting, for with these it makes a wound in the skin, having first fixed itself by the anterior sucker, and sucks the blood into its own body. L. are usually of a dark olive colour, with patches or spots on a paler ground, but bright green specimens also occur.

Leeds, Francis Osborne, fifth Duke of (1751-99), known before he succeeded to the dukedom as Lord Carnarthen, entered the House of Commons in 1774, but two years later was called to the House of Lords as Baron Osborne of Kiveton. He was appointed in 1777 lord chamberlain to the queen, but, owing to his differences with the ministry, resigned that position in 1780. He was foreign secretary in Pitt's administration (1783), and while still in office succeeded in 1789 to the dukedom. He was an amiable man, and a favourite in society, but as a secretary of state he was little more than a figurehead.

Leeds, Thomas Osborne, first Duke of (1631-1712), Eng. statesman, was a son of a Yorkshire baronet. In 1647 he succeeded to the title and estates, became M.P. for York in 1665, and an opponent of Clarendon, under Buckingham's leadership. He held various offices in the navy administration, and on his appointment as lord treasurer in 1673 was created viscount, becoming earl of Danby in the following year. A strong partisan of the Church of England and its supremacy, he advised against Charles II.'s attempts to obtain toleration for Rom. Catholics. In foreign affairs he was an enemy of France, but his position was complicated by his keen royalism, and he must have been aware of the secret treaty of Dover. However, whilst obtaining Fr. subsidies, simultaneously he concluded a league with Holland for war against Louis XIV. His fall was engineered by Montague, in 1679 an act of attainder being brought in against him by the Commons on various charges, including the raising of a standing army, corruption, and embezzlement. He was released from the Tower in 1684 and took the lead of the moderate Tories in the House of Lords against James II. The king's attacks on Protestantism drove him into the camp of William of Orange, and he was one of the leaders who invited William to England in 1688. From 1690

to 1695 he was a chief adviser to William, regaining his post of lord treasurer and becoming duke of L. in 1694. After this period his power declined, a charge of bribery was brought against him in 1695, but not pressed, and in 1699 he was compelled to resign.

Leeds, city, parl. and co. bor. in the W. Riding of Yorkshire, on the R. Aire, 25 m. W.S.W. of York and an important railway centre. It is situated in beautiful country near the Yorkshire dales and the 'Brontë'

municipal bor., was granted by Charles I. in 1626.

To-day L. is the largest ready-made clothing centre in the world, giving employment (1939) to some 55,000 persons; while the woollen and worsted trades employ some 15,500. Large as the woollen trade is it is rivalled by the engineering trade and the manuf. of iron, which includes both the casting of metal and the manuf. of machinery and employs some 15,000 persons. L. is an important centre



LEEDS: ROUNDHAY PARK

Valentine & Sons Ltd., Dundee

land. It was made a city in 1593 and a co. bor. in 1899. It owes its modern development to its industries, being the seat of the Eng. woollen industry and noted for this manuf. for centuries. Situated about the centre of the national railway system, and having communication with Liverpool by the L. and Liverpool Canal and with the Humber by the Aire and Calder Navigation Canal, L. has valuable transport facilities, and the proximity of the great coal and iron fields has also been a most influential factor in establishing its prosperity. The early hist. of L. is obscure; apparently its original name was Loidis and at the coming of the Normans it was an agric. vil. of 1000 ac. cultivated by thirty-five farmers. In later years, with the introduction of the art of weaving and the development of cloth manuf., L. gradually rose to a prominent place among the tn. of England. The first royal charter, which formed the tn. and par. into a

for leather manuf., the printing trade, and furniture making; and among its other numerous industries are chemicals, soap manuf., coach-building, ferro-concrete construction, medicine, hairdressing apparatus, cardboard box making, mineral waters, carpets, scientific instruments, cameras, jams and sauces, hats, brushes, clocks and watches, fish canning, button making, and electrical appliances and accessories.

In the centre of City Square stands Brock's equestrian figure of the Black Prince, whose father Edward III. did much to establish the wool industry in L. Briggate, which crosses Boar Lane, is a leading shopping street, and Duncan Street—named after Adm. Duncan—is another chief shopping centre. Another, Kirkgate, leads to the markets and to the par. church. The church is said to be the fourth to be built on this site since Domesday Book recorded that L. possessed 'a priest, a church, and a mill.' In the

church is a pre-Conquest cross, the oldest political monument in L. Crossing Briggate is a new 80-ft.-wide street, called the Headrow because it runs along the line of old streets. This is now the main street leading to the city's shopping centre; its elevations are the work of Sir Rognald Blomfield. Above the Headrow is St. John's Church, the city's eccles. treasure, which was built and endowed in 1634 by John Harrison and is a complete example of seventeenth-century Gothic architecture. Running off the Headrow is King Charles Croft, the site of the Red Hall, formerly a mansion which received as a prisoner King Charles I. The L. museum, in Park Row, contains an Egyptian mummy of 1070 B.C., pottery, Yorkshire tokens, objects of Civita Lavina, zoological specimens, and much else of general interest. Near Park Row is St. Anne's Rom. Catholic cathedral. The tn. hall was designed by Guthbert Brodric and opened by Queen Victoria in 1858; it is in the classic style, with a tower 225 ft. high. At the rear of the tn. hall is the civic hall, the most modern public building, which was opened by King George V. in Aug. 1933. The main frontage has a portico with six columns and the twin towers are 170 ft. high, each surmounted by a large gilt owl, which is part of the arms of the corporation. Opposite the tn. hall are the municipal buildings, now occupied by the central reference and lending libraries, the commercial and technical library, and the art gallery. The 250 pictures in the gallery are representative almost entirely of Brit. art at the beginning of the twentieth century.

The univ. of L. (*see* LEEDS UNIVERSITY), which was incorporated in 1904, grew out of the Yorkshire College of Science founded in 1874, although still older is the L. School of Medicine founded in 1831 (*see* LEEDS UNIVERSITY). There are a girls' high school (1876) and a grammar school founded in 1552 and enlarged in 1863, as well as over 110 primary schools with accommodation for 92,800 children. There is a teachers' training college and a college of housecraft, and the Carnegie Physical Training College in Beckett Park was the first of its kind in the country. L. returns seven members to Parliament and is the second city of Yorkshire and the sixth in England. L. did not suffer extensive war damage compared with some other cities of the kingdom, the heaviest raid being on March 14-15, 1941. Altogether there were nine raids on L., in which seventy-seven persons were killed, over 300 injured, and 4800 rendered homeless; 170 houses were demolished and 4300 damaged; while twenty-two non-residential buildings were demolished and 3400 non-residential buildings were damaged.

The area of L. is about 38,300 ac. Of this over 3200 ac. are taken up by parks and open spaces. The two prin. parks are at Roundhay (629 ac.) and Temple Newsam (935 ac.). Roundhay Park has natural woodlands and two lakes and was formerly a royal hunting ground. Temple

Newsam, the largest of the city's open spaces, was acquired in 1922 from the Hon. E. F. L. Wood, later Lord Halifax. Another attractive piece of woodland is Middleton Park (316 ac.), lying to the S. of the city near an industrial dist. There is an aerodrome at Yeadon of some 200 ac. The pop. of L. in 1973 numbered 17,000; to-day (1949) it is 490,000.

Leeds, vil. in Megantic co., Quebec, Canada, 38 m. S. of Quebec. Pop. 1500.

'Leeds Mercury.' This was estab. in 1718 as a daily Liberal newspaper at 1d. When the stamp tax was imposed its price gradually rose until in 1797 it was 6d., with a circulation of only 800. In 1901 it was 1d. and was more profitable at that price than at 1d. It is now amalgamated with the *Yorkshire Post*.

Leeds University grew out of the L. School of Medicine, which was founded in 1831. In 1884 this was united with the Yorkshire College of Science, which was founded in 1874. The first Yorkshire College was predominantly scientific in its instruction, and the wider educational scope was a later development. Subsequently the college became federated with Owen's College, Manchester, and the Univ. College, Liverpool, to form together the Victoria Univ. This was dissolved in 1903, and the next year the univ. of L. was constituted by royal charter. All parts of York-shire outside the sphere of Sheffield have been recognised as entitled to a voice in its government. In time the accommodation became inadequate and a new scheme of buildings was designed to cover 16 ac., with an imposing frontage to Woodhouse Lane. The Brotherton Library (capable of housing 1,000,000 vols.) is part of the scheme that has been completed. Plans have been prepared for the central block and tower. L. U. is open to men and women. The number of students averages 2300 and the number of profs., lecturers, etc., is 443. There is a training dept. for men and women. There are faculties in science, technology (including mining, textile industry, etc.), medicine, and the arts (including economics and law). The univ. awards the customary degrees and also diplomas. There are affiliated colleges, such as the College of the Resurrection.

Lee-Enfield, standard Brit. rifle, *see* under GUN.

Leek, mrrkt. tn. in Staffordshire, 8½ m. from Burslem. The tn. is specially noted for its sewing thread and silk dye-works, and manufs. silks and ribbons. A branch of the Trent and Mersey Canal touches the tn. Pop. 17,000.

Leek, plant which is generally considered a cultivated variety of *Lilium ampeloprasum*. It is a biennial plant, and is largely grown for food, the whole plant, with the exception of the fibrous root, being utilised. M. Leek produces some very fine Ls. It is the national emblem of the Welsh, who wear it on St. David's Day; but some authorities maintain that the L. has been confused with the daffodil, which in Welsh is *Cenis Pedr*, St. Peter's L. *See also* HOUSE SAXONY.

Leer, tn. and riv. port of Lower Saxony.

Germany, on the R Leda 20 m S E of Emden. It has textile manufs and agric and other products are exported. Pop 13,200

Lees, urban dist., tn., and par of Lancashire, England, about 1½ m S E of Oldham, of which it is a suburb. Pop 4700

Leese, Sir Oliver William Hargreaves (b 1894) Eng soldier. After service in the First World War, in which he gained the D S O, L was appointed deputy chief of the general staff of the B L I in 1940, and a divisional commander. A lieutenant general in 1942 he commanded the 30th Corp of the Eighth Army from Alamein to Sicily. In Jan 1944 L became Eighth Army commander until transferred in Nov to Allied Land Forces S E Asia. From 1945 to his retirement in 1946 he was general officer commanding in-chief, E command. In 1937 he succeeded to the family baronetcy.

Leeuwarden, tn of the Netherlands and cap of Friesland 70 m N E of Amsterdam. The tn is intersected by numerous canals and is well built. It has an extensive trade in grain produce and cattle and has important manufs of gold and silver ware, musical instruments, cloth etc. Pop 75,800



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ANTHONY VAN LEEUWENHOEK

Leeuwenhoek, Anthony van (1632-1723), Dutch naturalist, b at Delft. He was a cloth merchant by trade and as a hobby made magnifying lenses. He obtained quite high magnifications, even though his microscopes were of the simple type and contained only a single lens. The compound microscope, with separate eyepiece and objective, was invented a few years earlier by Galileo (1564-1642). L

ground his own lenses by a method which still remains a secret. He made many important discoveries in the anatomy of man and the higher animals and insects. He also discovered bacteria (*qv*). Most of his discoveries were pub in the *Philosophical Transactions* of the Royal Society, of which body he became a fellow in 1680, and in the *Mémoires* of the Paris Academy of Sciences, of which he became a member in 1697. Two collections of his works, one in Dutch and one in Lat., appeared in his lifetime, and a selection from them has been trans into Eng by S Hoole (1738-1801). His letters were pub in 1941 in Amsterdam. See C Dobell *Jan Van Leeuwenhoek and His Little Animals* 1932.

Leeward Islands, name given to the group of the Lesser Antilles which skirts the Venezuelan coast. The name—*Islas de Levante*—was formerly a geographical designation given by the Spaniards to indicate the sheltered position of the is. as opposed to *Islas de Barlovento* the Windward Is. It is now applied to the Brit colony comprising the four dependencies Barbuda and Redonda, St Kitts, Nevis and Anguilla, Montserrat and the Virgin Is. Dominica by her own wish ceased to be a presidency of the I L becoming a separate colony under the governor of the Windward Is. and an Act to that end was passed by Parliament in 1938. The federation of the I L was effected by an Act of the Imperial Parliament of 1871. In its geographical sense the I L also include Guadeloupe and Martinique and other is belonging to other European states. France possesses Guadeloupe, Martinique, St Bartholomew and part of St Martin while Holland has St Eustatius, Saba and the other part of St Martin and Denmark has a share in the Virgin Is. The chief productions are sugar, salt, phosphate of alumina (obtained from the rich deposits in the islet of Redonda), lime juice which is exported from Montserrat, rum, molasses, cacao, and oils the two last being from Dominica. St John in Antigua with a pop of 11,000 is the cap and residence of the commander in chief of the Brit colony. A commission appointed in 1932 recommended that the I L and the Windward Is should be united into one colony under a single governor with the headquarters at St Lucia, but the recommendation was not accepted. The total area of the Brit I L is 4,224 sq m and the pop 109,850. See A Macmillan *The West Indies Past and Present*, with *British Guiana and Bermuda* 1938.

Le Fanu, Joseph Sheridan (1814-73), Irish novelist, began writing at an early age, and in 1837 wrote the famous Irish ballad *Shamus O'Brien*. He was long engaged in journalism, amalgamating the *Warrior*, the *Evening Post* and the *Dublin Evening Mail* as the *Evening Mail*, but he pub two novels *The Cock and Anchor* (1845) and *Forlough O'Brien* (1847), neither of which attracted any particular attention. It was in 1863, with *The House by the Churchyard*, that he first secured public favour, and he followed up

this success with *Uncle Silas* (1864) and *Wylder's Hand* (1861), both popular, and sev. other works of fiction such as *Haunted Lives* (1868); *The Wyvern Mystery* (1869); *Willing to Die* (1870); and *Through a Glass Darkly* (1872). His popularity has now waned, and he is little read. Another member of the family, Brinsley le F., was well known as an illustrator of books. See J. M. Ellis, *Hilkie Collins, Le Fanu, and Others*, 1931.

Lefebvre, Pierre François Joseph, Duc de Danzig (1755-1820), marshal of France, b. at Rufach in Alsace. He fought at Fleurus in the revolutionary wars, and on his return to France assisted Napoleon in the *coup d'état* of 1799, becoming a marshal of the empire in 1801. In the war against Prussia he captured Danzig in 1808. He commanded the Imperial Guard in Russia, 1812, and fought through the last campaign of the empire. After Napoleon's abdication he was made a peer. See life by J. Wirth, 1904.

Lefèvre d'Étaples, Jacques, see FABER, JACQUES.

Lefler, Anna Carlotta, see EDGREN.

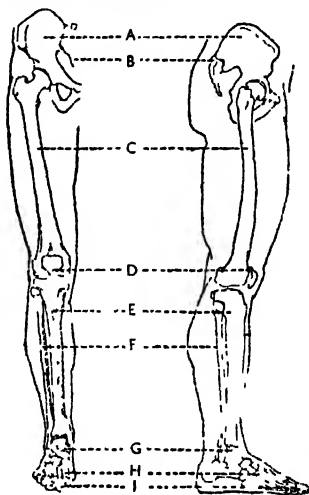
Lefkolia, see NICOSIA.

Lefroy, Mount, pe. cl., 11,660 ft. high, in the Rocky Mts., Alberta, Canada.

Left-handedness, see AMBIDEXTERITY.

Leg. In common speech the word leg is used for the whole of the hind limb; anatomically the word applies only to the shank, or portion between the knee and ankle. There is a great similarity in the anatomy of the hind limb in all animals. The thigh has one main bone, the femur, which enters into the formation of the hip-joint above and of the knee-joint below. The L. proper contains two bones, the tibia and the fibula. The tibia is the larger of the two bones and the more palpable. Its anterior border forms the shin. The upper part of the tibia forms, with the lower part of the femur, and with the patella or kneecap, the knee-joint; but both the tibia and the fibula enter into the formation of the ankle-joint, the tibia forming the inner and the fibula the outer malleolus. Below these two bones come the small bones of the tarsus and metatarsus, forming the framework of the foot, and below the metatarsus come the phalanges of the toes. The chief difference in structure of the hind limb is due to the fact that in the course of evolution it has rotated inwards. The anterior part of the L. of a lizard is represented in man by the inner part, whereas the homologue of the posterior part is the posterior outer and anterior parts of a man's L. There are two factors which account for the specific points in the structure of the human L.; first and most important is the adoption by man of the erect posture, and the second, the disuse of the climbing habits of his ancestors, the apes. The main arterial supply of the L. is from the common femoral artery, which runs in the anterior part of the thigh; the main nerve supply is the great sciatic nerve, running in the posterior part of the thigh. At the knee the artery is the popliteal artery, a direct continuation of the femoral artery. The nerve supply from the knee down-

wards comes from the popliteal nerves, branches of the great sciatic. The artery with its vein and the two nerves are to be found in the popliteal space at the back of the knee. The venous return is by deep and superficial channels. The superficial group of veins, which end in the long saphenous vein, are those which are liable to become varicose.



BONES OF THE LEG

A, ilium; B, sacrum; C, femur; D, patella.
E, tibia; F, fibula; G, tarsals; H, metatarsals;
I, phalanges.

Legacy (Lat. *legatum*), in Eng. law bequest of personal property made by a testator in his will to be paid by his executor. Ls. may be specific, general, demonstrative, or cumulative. A specific L. is a gift of a specified object, such as a particular picture or certain shares. Such a L. is liable to ademption, that is to say, if the picture should have been destroyed by fire or the shares sold in payment of the testator's debts, no compensation is made. But if the specific L. exists it must be paid in full in preference to all other Ls. A general L. is a gift payable out of the assets and not particularly distinguished from the whole of the personal estate. It is liable to abatement only when there is not sufficient to pay all the general Ls. A demonstrative L. is primarily payable out of a specified fund, but if there is any balance to be paid recourse must be made to the residue of the estate. A cumulative L. is a second or further L. to the same person. If the two Ls. are of equal amount or bequeathed by the same instrument, it is assumed that the second is a mere repetition of the first; but if they are bequeathed by different instruments or are of unequal amounts it is assumed that the second L. is in addition to the first.

A L. is not payable till a year after the death of the testator. A L. to a creditor is regarded as payment of the debt, provided it is not less than the sum owing. See also LEGACY AND SUCCESSION DUTY. See Jarman, *On Wills*, 1930, and Theobald, *On Wills* (9th ed.), ed. by J. H. C. Morris, 1939.

Legacy and Succession Duty. L. D. was first imposed in 1780, and was charged on personality only. The statutory provisions and rates were as follows: If death took place on or after June 1, 1881, every resultant pecuniary legacy or residue, or share of residue, although not of the amount or value of £20, was chargeable with duty, except in the case of small estates. No succession duty was payable where the principal value of all the successions on the same death did not amount to £100.

The following rates of duties were payable on legacies, annuities, and residues, and of succession duties where deceased *d.* before July 1, 1888, or where estate duty under the Finance Act, 1891, was payable:

To husband or wife or children of the deceased or their descendants, or to the father or mother or other lineal ancestor of the deceased, £1 per cent. (Except in the case of estates not exceeding £15,000—legacies and accessions of less than £1000 (£2000 in the case of widow or child under the age of twenty-one of deceased) whatever might be the value of whole estate.) To brothers and sisters of the deceased or their descendants, £5 per cent. To brothers and sisters of the father or mother of the deceased or their descendants, £10 per cent. To brothers and sisters or the grandfather or grandmother of the deceased or their descendants, £10 per cent. To any person in any degree of collateral consanguinity, or to a stranger in blood to the deceased, £10 per cent. Where death took place on or after July 1, 1888, and probate or estate duty was not payable, succession duties for the relationships set out above were at rates of 1½, 4½, 6½, 7½, and 11½ per cent. respectively. These rates, except in gifts to charitable or public purposes, were doubled by the Finance Act (1947). The husband or wife is chargeable with estate duty and L., and S. D.; and the husband or wife of a relation is chargeable at the rate at which the relation would be charged. L. and S. Ds. no longer exist, having (in 1919) become consolidated into estate duty (*q.v.*).

Legal Aid, see POOR PRISONERS' DEFENCE.

Legal Education, in England, is under the direction of the council of L. E., a body which is controlled by the four Inns of Court (*q.v.*). In order to become a practitioner at the Eng. Bar the applicant must gain admission to an Inn of Court as a student and pass the requisite examinations. There is no residential qualification, but the student must keep terms by attending dinners in Hall to the number of twenty-four a year for three years, with a remission of six months in the event of his winning a studentship.

After passing his examination and paying stamp and registration fees the student is "called," at his particular Inn, and so acquires the degree of barrister-at-law. The possession of a law degree of a univ. is not accepted as a substitute for the Bar examinations, though such degrees and even the possession of a matriculation certificate would exempt the applicant from the entrance examination, which latter is an elementary general test. The Masters of the Bench of the Inn may, in any individual case where, in their view, special circumstances justify such a course, dispense with educational tests. This, for example, was done in the case of the celebrated Amer. lawyer Judah Philip Benjamin (*q.v.*), who, very soon in his career at the Eng. Bar, acquired a commanding practice in cases before the Judicial Committee of the Privy Council. Membership of the Inn of Court of N. Ireland is a sufficient qualification for membership of any Eng. Inn. An applicant for admission as a student must produce a certificate of character to the satisfaction of the Masters of the Bench of the Inn to which he seeks admission, and, if still receiving a general education, a certificate from the school or college at which he is attending. There are special regulations for Indian native students. Further applicants must make a declaration that they are not, and do not either directly or indirectly, act as solicitor, attorney, clerk of the peace, publ. agent, or in any similar capacity, nor as chartered accountant, actuary, land agent, surveyor, patent agent, or consulting engineer.

For the purpose of providing for students' education in the general principles of law and its practical administration, a system for instruction, under the supervision and direction of the council of L. E., is given in Rom. Law, Jurisprudence, International Law, and Conflict of Laws (*q.v.*); Constitutional Law and Legal Hist. (Eng. and colonial); and Eng. Law (civil and criminal) and Equity. Students are recommended also to read in the chambers of a barrister or pleader so as to study the practice of the law. The examinations which must (subject to the qualification noted above) be passed by all students for the degree of barrister-at-law are divided into two parts. Part I. comprises (1) Rom. Law; (2) Constitutional Law (Eng. and colonial) and Legal Hist.; (3) Elements of the Law of Contract and the Law of Tort. Part II. comprises (1) Common Law; (2) Equity; (3) Law of Evidence and Civil Procedure; (4) A general paper on the three immediately foregoing sections; (5) Real Property and Conveyancing or Hindu and Islamic Law or Rom.-Dutch Law. The council may accept equivalents for Rom. Law such as a univ. degree including Rom. Law. The council may award certain prizes and also studentships of 100 guineas a year tenable for three years to the student who passes best in the Part II. examination and who is under twenty-five years of age. Winners of studentships and certificates of honour take rank in seniority over all other students called to the Bar on the same

day; but this privilege has no effect on their legal careers, for the student with the highest academic honours may never get a brief while the student who barely satisfies the examiners may rise to be a law officer of the Crown or a high court judge.

Canada.—Owing to the complicated character of their legal systems, good law schools are more difficult to organise in Canada and in the U.S.A. than in England. But in one respect the question is simpler in Canada than in the U.S.A., because Canada has a unified system of courts instead of a dual state and federal system. In Canada, as in the U.S.A., the attempt to divide the legal profession in the manner in which it is divided in England has failed. There are no barristers in the Eng. sense, practitioners being really attorneys and solicitors, who exercise the functions of an Eng. barrister without his distinctive privileges. The Canadian Bar Association, organised only in 1914, has not been supplemented by an independent association of law schools, as in the U.S.A., but it already includes a much larger proportion of practitioners than its Amer. prototype. The minimum period required by graduates of an Eng.-speaking high school to complete all requirements both of general education and of law study varies from four years in Newfoundland to as much as seven in Ontario and Manitoba and Saskatchewan. There are ten law schools, viz. the legal faculties of Montreal and Laval Univs. (graduation from a college, or examination, followed by three years law); the legal faculty of New Brunswick Univ. and the Osgoode Hall Law School, Toronto (two years of college followed by three years law); Vancouver Law School (one year of college followed by three years law); the legal faculties of Dalhousie, McGill, and Alberta Univs., and the College of Law of Saskatchewan Univ. (two years of college followed by three years law); and the Manitoba Law School, Univ. of Manitoba (two years of college followed by four years law).

See A. Z. Reed, *Present-Day Law Schools in the United States and Canada*; Bulletin No. 21 (New York city), 1928, and *Annual Review of Legal Education*, 1930, issued by the Carnegie Foundation for the Advancement of Teaching.

Le Gallienne, Richard (1866-1947), Eng. author and journalist, b. in Liverpool, son of a merchant. Literary critic for the *Star*, 1891, he joined the staffs of the *Daily Chronicle* and the *Speaker*. The range and quality of his general criticism were well represented in *Retrospective Reviews* (1896). His romantic novel, *The Quest of the Golden Girl*, which appeared in 1896, won not only a succès d'estime but popular favour as well. He visited the U.S.A. on a lecture tour in 1898, afterwards taking up his residence in New York and later in France. His works also include *My Lady's Sonnets* (1887); *Robert Louis Stevenson and Other Poems* (1895); *Travels in England* (1900); *George Meredith: some Characteristics* (1902); *Fantastic Roads*, etc. (1915); *Pieces of Eight* (1918); *The Romantic Nineties* (1928); *The Magic*

Sean (1930); and *From a Paris Garret* (1943).

Legal Tender, see TENDER.

Legate (Lat. *legatus*, ambas.), title now confined to the ambas. or diplomatic representative of the pope. Ls. are of two classes, *legati nati* (i.e. b.) and *legati missi*, or *dati* (dispatched Ls.). The former title is now almost honorary. *Legati nati* were formerly attached to some auct. see, such as that of Canterbury, and the title still attaches to the sees of Seville, Rheims, Cologne, etc. *Legati missi* may be (1) *Legati a latere*, that is, dispatched 'from the side' of the pope. A cardinal is generally employed, and he is the plenipotentiary representative of the pope, with full papal jurisdiction within his prov. (2) *Unci or internunci apostolici*, whose jurisdiction is limited, according to the terms of his mandate. (3) *Apostolic delegates*, whose duty it is to supervise ecclcs. matters and inform the pope thereon. (4) *Ratones extraordinary* are apostolic delegates charged with some definite ecclesiastico-diplomatic mission. The functions of Ls. are generally performed to-day by the lesser representatives known as nuncios, or internuncios.

Legato (It., noun, tnd), musical term indicating that the passage is to be rendered in a sustained manner, the notes being given as if tied together, the one leading into the other without a perceptible break.

Legend (Fr. *legende*; Lat. *legenda*, from *legere*, to read), originally the term applied to a narrative of a religious kind in the early days of Christianity, and hence used for portions of scripture and lives of the saints as read in public worship. The word later came to be applied to a story without any foundation in hist., but popularly supposed to be true, handed down from one generation to another. These Ls. were at first brief and simple, but gradually developed into long and imaginative tales of a more and more exaggerated description, so that by degrees the word came to mean a narrative, professedly historical, but in reality only traditional. The famous *Golden Legend*, a medieval collection of the lives of the saints, was composed towards the end of the thirteenth century by Jacobus de Voragine or Varagine (b. at Varesio, in Genoa) (1230-98). The title of his collection, in Lat., was *Legenda Sancta*, but it became so popular that it was called *Legenda Aurea*. The word L. is also used in connection with coats of arms and shields, by numismatists for inscriptions or mottoes on coins or medals, and by printers for the title or descriptive matter accompanying an illustration. See A. H. Guerber, *Myths and Legends of the Middle Ages*, 1906; J. G. Frazer, *Folk Lore in the Old Testament*, 1919; W. R. Halliday, *Indo-European L. & Tales and Greek Legends*, 1933; G. Frenken, *Wunder und Taten der Heiligen*, 1935; and E. Morris, *Legends of the Bible*, 1935.

Legendre, Adrien Marie (1752-1833), Fr. mathematician, b. at Toulouse. Through the influence of D'Alembert he obtained the professorship of mathematics at the

École Militaire, and afterwards at the **École Normale**. He was admitted to the **Académie des Sciences** for a brilliant paper on the attraction of spheroids in revolution (1783), and in 1787 was appointed to the commission to connect geodetically Greenwich and Paris. In *Nouvelles Méthodes pour la détermination des orbites des comètes* (1806) he propounded his method of least squares. Perhaps his greatest works were his *Traité des fonctions elliptiques et des intégrales Eulériennes* (1827-1832) and *Essai sur la théorie des nombres* (1830).

Leger Lines and Spaces, in music the short lines and spaces above or below the staff, used to express notes outside the staff.

Legge, George, see DARTMOUTH, BARON.

Legge, James (1815-97), Brit.-Chinese scholar, b. at Huntly, Aberdeen. In 1839 he went as a missionary to the Chinese. Until 1842 he was stationed at Malacca, when he moved to Hong Kong, where he remained for many years. His trans. of the Chinese classics, completed a few years before his death, secured him a world-wide reputation. In 1876 he became prof. of Chinese language and literature at Oxford. Among other works L. wrote *The Sacred Books of China and The Texts of Confucianism* (1879-58); *The Religions of China* (1880); and *A Record of Buddhist Kingdoms* (1886). See life by H. E. Legge, 1903.

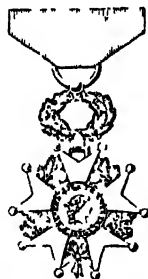
Leghorn (It. Livorno), seaport of Tuscany, the chief tn. of the prov. of the same name, on the W. coast of Italy, 12 m. S.W. by rail of Pisa. The most interesting of the buildings are the seventeenth-century cathedral, with its façade designed by Inigo Jones; the sixteenth-century *Fortezza Vecchia* overlooking the harbour; and the *Torre del Marzocco*. The N.W. portion of the tn. is traversed by many canals. In the fourteenth century L. was under the dominion of Pisa. At the beginning of the next century it came into the hands of France, who sold it to the Genoese in 1407. It was purchased by the Florentines in 1421, from which time its prosperity dates. In 1606 the port and harbour were opened to traders of all nationalities, and it was a free port from 1691 to 1867. Fortifications were built by the sea front, and there are numerous shipbuilding yards and warehouses. The chief industries before the Second World War were the manuf. of glass, cement, electric plant, porcelain, etc. The exports include 'Leghorn' hats, olive oil, wine, timber, silk, preserved fruits, coral, etc. New harbour works were completed before the First World War. L. is a popular sea-bathing resort.

In the Second World War the Fifth Army broke through the Ger. line S.E. of L. on July 10, 1944, and Amer. troops entered the city on the 19th. The city suffered heavily from bombing and shell-fire. The cathedral was very heavily damaged; there was a large gap in the façade of the S. transept and the gilded ceilings were totally destroyed. The church of S. Annunziata was half destroyed, but the rear portion remained standing. A near-miss brought down the

apse of S. Giovanni Battista and sev. other churches sustained severe damage. Heavy damage was done to that part of the Palazotto which faces the sea, to the *palazzi Granducaio*, del Monte di Pietà, and the *Tre Palazzi*. The Labronica library was almost totally destroyed by bombs, but 100,000 vols. were saved from the ruins. Pop. 135,360.

The prov. of L., consisting of the com. and the Is. of Elba and Gorgona, has an area of 471 sq. m. and a pop. of 240,000.

Legion (Lat. *legio*), div. of the Rom. army. The legionaries were regarded as the pick of the army. They were Rom. citizens, and received greater privileges and higher pay than the auxiliary troops (*auxilia*). At the time of the republic a L. numbered four to six thousand men, comprising *equites*, cavalry drawn from the noble families of Rome; *triarii*, or *pilani*, veterans forming the reserve; *principes*, highly trained infantry; *veteres*, skirmishers; and *hastati*, inexperienced troops. At the death of Augustus (A.D. 14) there were twenty-five Is. About 290 Diocletian reduced the strength of each L. but greatly increased their number. The L. lost its importance when the barbarian invasion of the third and fourth centuries altered the character of warfare and gave increased importance to cavalry.



THE LEGION OF HONOUR

Legion of Honour, order of merit created by Napoleon in 1802 as a reward for military and civil services. At present it embraces five classes: *Grands Croix*, *Grands Officiers*, *Commandeurs*, *Officiers*, and *Chevaliers*. A pension is granted to the military members according to their class, and free education is given to 400 of the daughters or sisters of its members. The president of the republic is grand chancellor of the order.

Legion of Merit, U.S. decoration instituted in 1939.

Legislation and Legislative Processes. Legislation means the making of laws by a sovereign body elected or otherwise existing for that purpose. Although at the present day legislation popularly connotes exclusively the formal rules promulgated by parliaments or analogous institutions, a connotation justified by the

overwhelming importance of this one process of legislation, it is to be noted that there co-exist other sources of new laws, or at all events newly applied legal principles. In England the Crown still possesses, by virtue of its prerogative (*see under Crown*), some ill-defined power of legislating in an emergency by proclamation, though it would do so only on the advice of the ministry and its action would probably be endorsed by an Act of Indemnity. Again, the judges have a covert and unavowed power of legislation. It is an axiom of legal administration that the Eng. judges only *declare* law; but a study of the law reports makes it apparent that old *rationes decidendi*, or principles, are constantly undergoing a slow but gradual reversal or modification by the process of engrafting so many exceptions on them as ultimately to render the old principles unrecognisable. At one time the Eng. judges were so confident of the perfection of the common law that they began to act on the principle that statutes were nugatory unless their meaning was clear to the mind of the judge himself. This principle of interpretation was not long encouraged. It obviously opened the door to prejudice. Modern Eng. judges either interpret enacted law 'grammatically,' i.e. according to the letter, or if that is logically defective by reason of ambiguity, inconsistency, or incompleteness, then either (a) literally or strictly applying the more natural meaning, or (b) equitably, where the natural meaning is rejected in favour of one more consonant with the intention of the legislature. Generally speaking, however, judges have no concern with legislative intentions if those intentions have not found expression in enactments.

In progressive societies legislation, according to Maine, comes last in historical order among the agencies by which law is brought into harmony with society (*see Equity; Fiction; Customs*), the other agencies being legal fictions and equity. The characteristic difference of legislation from the other agencies is that its obligatory force in no way depends upon its principles, for theoretically parliament or an autocratic prince can legislate in defiance of public opinion. That legislatures, in democratic countries at least, do not in fact do so at the present day is because their enactments are in accordance with the morality and sentiments of either the actual majority or at least a very respectable proportion of the people at large. It would be an interesting but speculative inquiry to investigate the actual relations of custom or customary law (*see Customs; Customary*) and legislation. Customs have frequently crystallised into legislative enactments, and on the other hand general enactments have often expressly respected customs. At all events one assertion of Maine's seems historically accurate, that generally speaking the epoch of customary law is everywhere the immediate predecessor of the era of codes (*q.v.*).

Legislation in the sense of enacted law everywhere tends to absorb all other

sources and even forms of law. Rights and duties may, of course, be created by private bodies in whom has been vested a restricted autonomy. For example, the shareholders of a company may, by a resolution at a general meeting, alter the Articles of Association, and such alteration will, even if not unanimous, be binding on the minority if not otherwise *ultra vires*. But even in these exceptional modes of legislation, or quasi-legislation, the hand of enacted law is discernible, e.g. in the minute details to be found in the Companies Consolidation Acts, relating to the manner of altering the articles of a company. Statute law in England, as will be seen in the year books, occupied quite a minor position as compared with common law in the Middle Ages. Practically two-thirds of the Acts recorded on the statute book between the middle of the thirteenth and the middle of the nineteenth century were passed in the last 200 years of that period. The rate is now considerably accelerated, and it is not surprising that, in the present state of society, social relations should in all conceivable cases be regulated by legislation. Even if legislative Acts in England are not imposed by consent in quite the same degree as Acts imposed through a referendum (*see Initiative*), the principle of representation ensures the almost completely consensual nature of modern statute law. Further the principles of status or caste having at all points yielded to those based on agreement or contract, it follows that fresh rights and duties will, for the most part, have to be embodied in legislative expression before they will be respected. It is public opinion which gives the real sanction and seal to legislation, and the morality manifested by that opinion is the whole principle of the science of legislation.

Legislative Processes.—In anct. Rome there was but little direct law-making, except to meet temporary emergencies. Such laws as were made were first proposed and determined on by the senate, under the guidance of the king as the chief magistrate, and then submitted to the supreme council of the *gentes* (*comitia curiata*). The king himself as *pontifex maximus* promulgated laws (*leges regie*) relating exclusively to religious ceremonies. Later, and after the assembly of the tribes had superseded that of the centuries, the chief process of legislation was by *plebiscita*, though the ordinances of the senate (*senatus consulta*) from being of doubtful authority were gradually acquiring importance. The senate also issued injunctions in the form of directions to particular magistrates, and, according to Puchta, before the era of the republic had closed, made independent enactments by decree in matters concerning religion, police, and civil administration. After the republic gave way to the empire, the method of legislation, as well as its source, changed completely. The emperor, nominally only chief magistrate, acquired the *imperium*, or supreme command in the state, and

gradually absorbed the sole legislative authority, dictating to the senate what it was to enact or else enacting law himself. The processes by which the emperor's will expressed itself in legislation were by *edicts*, enunciated in his capacity as magistrate, *mandates*, or orders, directed to particular officers, *epistles* addressed to individuals or public bodies; *decrees* or judicial sentences having the force of precedents; and *rescripts* to magistrates by way of answer on points of difficulty. Nominally the people continued to make laws, but they were no more than laws passed at the bidding of the emperor. The process of legislation was for the emperor to lay a bill or *lex* before the senate in an *oratio* or *epistula*, after which it received the more or less formal *auctoritas* of the senate.

In England legislation under the Norman kings was by charter issued by the king and assented to by the barons; these charters were hardly more than confirmations of customs and liberties (see under *FRANCHISE*). The Angevin kings made laws by *assize* (*assisa*, statute) issued by the advice and consent of the barons, archbishops, abbots, and other members of the royal council, and proclaimed in the shire courts by the sheriffs. According to Stubbs they remained in force during the royal pleasure. In Henry III.'s reign legislation was, by a form, called *provisions*, e.g. the provisions of Oxford; and towards the end of the thirteenth century by statute and ordinance. Statutes were enacted by the assent of the prelates, earls, barons, and the commonalty of the realm. They were generally founded on petitions addressed to the king by the Commons, with the assent of the prelates, earls, and barons. The petitions were referred to a committee of the peers and answered by the king on their advice, the statute itself being framed from the petition and its answer (see J. E. Jolliffe, *Constitutional History of Medieval England*, 1937, and Stubbs, *Select Charters*). The prerogative power of legislation by ordinance was of short duration, and the enactments so made were not enrolled in the year books, unless ultimately converted into Acts of Parliament. When the executive and legislative functions became more clearly separated, and the Commons had gained the controlling power in initiating legislation, they protested against legislation in the guise of an executive ordinance, and accordingly ordinances ceased in the fifteenth century. Legislation by ordinance was revived in the sixteenth century in the shape of *proclamations* issued by the Crown in council by way of supplement to statute law, and later as completely independent autocratic enactments. Charles I. issued many of these illegal proclamations, but they disappeared after 1640. The claim of the Stuart kings to dispense with the operation of particular statutes in individual cases, or to suspend an Act altogether, was abrogated by the Bill of Rights in 1689. The Crown can, however, still manifest the residue of its discretionary power by means of Orders in

Council and Proclamations; but they are probably made subject to the assent of Parliament, and in any case are revocable by statute. Legislation is now by Bill passed in both Houses of Parliament, or under the Parliament Act, passed in the Lower House, and thrice within a period of two years submitted to the Upper House and assented to by the king. (For the procedure see under *PARLIAMENT*; *COMMITTEES*, *PARLIAMENTARY*; also *CODES*; *CUSTOMS* or *USAGES*; *EQUITY*.)

Following the example of Great Britain the process of legislation in the U.S.A. both in the states and the federal legislation, is by Bills presented to and passed by two chambers, a House of Representatives and a Senate. The subjects of state legislation, as distinct from federal legislation, are limited to those which do not relate solely to the collective life of the nation, and all powers not expressly allotted to the federal gov. are left automatically to the states as of right. The two federal assemblies of the central gov. together form Congress. Every Bill introduced in the House of Representatives is referred to one of some sixty different committees, and then comes up for deliberation by the whole House. It seems that very few of the vast number of Bills brought in actually pass. A Bill that passes is then sent to the other House and goes through a similar process. A compromise by conference may be effected where the Bill as passed in each House differs. If the Bill passes both Houses it is sent to the President, and if approved by him, and not returned within ten days, automatically becomes law. If vetoed by the President it is sent back to its House of origin, and if again passed by a two-thirds majority is referred back to the other House, and if there passed by a like majority becomes law without the President's assent. Changes in the constitution require for their validity the sanction of three-fourths of the states, after having been adopted by a two-thirds vote of both Houses of Congress. The courts have the final decision as to whether enactments, either federal or state, are constitutional. Legislation in pre-Nazi Germany, and in France and most other democratic nations of to-day, is fundamentally similar in process to that of the bicameral and representative systems of Great Britain and the U.S.A. See also *LEGISLATURE*, and under the respective countries.

See W. Stubbs, *Select Charters*, 1870; H. H. Gielst, *Constitutional History of England*, 1882; J. Bentham, *Fragment on Government* (ed. by F. C. Montague), 1891, *Morals and Legislation*, 1907, and *Theory of Legislation* (ed. by C. K. Ogden), 1931; E. F. Clarke, *Science of Law and Law Making*, 1898; Sir G. W. Prothero, *Select Statutes 1558-1625 and other Constitutional Documents* (10th ed.), 1913; W. J. Brown, *Underlying Principles of Modern Legislation*, 1920; Sir C. T. Carr, *Delegated Legislation*, 1921; Sir W. R. Anson, *Law and Custom of the Constitution*, vol. I, *Parliament* (5th ed. by M. L. Gwyer), 1922; Lord Hewart, *The New Despotism* (on the law-making encroachments of the

executive) 1929; H. Finer, *Theory and Practice of Modern Government*, 1932, E. H. Freund, *Legislature Regulation: A Study of the Ways and Means of Written Law*, 1932; H. L. Gray, *Influence of Commons on Early Legislation*, 1932, *Report of Committee on Ministers' Powers* (H.M.S.O.) 1932, F. Jennings, *Parliament*, 1899, and C. K. Allen *Law in the Making* 1939, and *Law and Orders* 1945.

Legislature, body of men in any state constitutionally vested with the power to make amend or repeal laws. Constitutionally the sovereign L. in England is the House of Commons the House of Lords and the king. But the king's veto is never exercised (see also CROWN) and the Parliament Act has cut down the power of the Upper House to the extent that Bills three times sent up to that House within the space of two years automatically became law. (Under a Bill introduced by the Labour Gov. in 1918 it was proposed to reduce this period to six months). There is theoretically nothing which a sovereign L. cannot do, but in those states where the L. is representative the will of the L. is more or less a faithful reflection of the will of the political sovereign, i.e. the electorate (q.v.). In England there is no law that the L. cannot make or abrogate, but in the U.S.A. laws may be declared by the courts as unconstitutional and therefore void, and in Switzerland the federal assembly cannot alter a constitutional principle without the consent of the people (see also INITIATIVE). There are analogous limitations on the powers of the L. in respect of the Australian Commonwealth Constitution and under the British America Act on the Canadian parliament's powers. As to the relations of the L. to the Executive, see under CABINET and EXECUTIVE and for the L. of the Crown colonies see under that title. See also LEGISLATION AND LEGISLATIVE PROCESSES.

Legitim, or Burr's part of Gear, in Scots law that portion of the free movable property of the father to which L. children are entitled at his death. If the father leaves one or more children but no widow the former get one half of their L., the other half being dead's part (q.v.). If he leave both widow and children the widow takes one third and children the children's L. and the remaining third is dead's part (see also TESTATE). There is no right of representation in the L., and hence the children of a deceased child have no claim to that part of their grandfather's estate which their parent would have been entitled to as L. if he survived. The right to L. is defeated if the father makes provision however small for his children in an ante-nuptial contract of marriage expressly by way of substitution for L. but if he settles the whole of the property on the children by such contract, even though subject to a life rent (q.v.) for the wife the right to L. is excluded by implication. Generally speaking children claiming L. must collate any separate provision received by them from, or any advancement made to them

by, the father (see HORTUPORE), and this applies to the heir in heritage, who must collate the heritage, unless he be an only child. Like other legal systems deriving directly or indirectly from Rom. law, Scots law prevents a parent from willing away from his children more than a fixed proportion of his estate. See Bill *Principles of the Law of Scotland* and J. L. King, *Principles of the Law of Scotland*, 1711.

Legitimacy By Eng. law a child born anywhere in lawful wedlock is legitimate, i.e. to quote a hypothetical case in Foulke's *Medical Jurisprudence* if a couple are married at two o'clock, and a child is born at three o'clock on the same day, that child is legitimate. Prior to 1927 there was no law in England for legitimating a child born out of wedlock, although Scots law has long recognised *legitimation per subsequens matrimonium*, i.e. legitimization by the subsequent marriage of parents. Legitimation *per subsequens matrimonium* is now an accepted principle in Eng. law. By the Legitimacy Act, 1926 which came into operation on Jan. 1, 1927 an illegitimate person is rendered legitimate if the parents marry or have married whether before or after Jan. 1, 1926 but the father must at the date of the marriage be domiciled in England or Wales, and the legitimization dates either from Jan. 1, 1926 or from the marriage whichever best suits the case. This Act does not legitimate a person whose father or mother was married to a third person at the time when the illegitimate person was born. The legitimated person may take property under intestacy occurring after legitimization or under any disposition coming into operation after legitimization. The legitimated person is legally bound to maintain all persons whom he would be bound to maintain if he had been born legitimate. The Act specially provides that no man is to be taken any person capable of success to or transmitting a right to any dignity or title, but otherwise legitimacy issues as under no legal disability. Questions of L. have frequently arisen in lawsuits when though a child has been born in wedlock, the parties have not been accessible to each other. But a man's accessibility to his wife is by the Eng. law of evidence taken for granted if he uses a quaint old phrase: he was within the four seas of the realm. Eng. law, however even before 1927, recognised as legitimate children born out of wedlock but whose parents subsequently married if both the law of the father's domicile at the date of birth and that of his domicile at the date of his marriage concur in allowing legitimization by subsequent marriage. In cases relating to disputed title to land the question of L. is determined exclusively by the law of the place where the property is situate (see *lex loci rei sitae* under *LEX LOC*) and if that law allows legitimization the child is legitimate. And generally it is a principle of the comity (q.v.) of nations to recognise the L. of children who are legitimate by the law of their place of origin, i.e. the father's domicile. Again

even before the Act of 1926 the only consequences of illegitimacy were in regard to the devolution of property on intestacy (see *INHERITANCE*; *HEIR*; *DISSENT*). No person born out of wedlock could, prior to 1927, be an heir to Eng. real property, though such property could, prior to 1927, be validly left to him by will. Peerages or other hereditary dignities, not being the subject of testamentary disposition, could not devolve on an illegitimate person, and, as we have seen, they are excluded from the operation of the new Act. The Deceased Wife's Sister's Marriage Act, 1907, has the effect of legitimising the issue of any union with a deceased wife's sister, whether contracted before or after the Act was passed (see also under *DECEASED WIFE'S SISTER*). Applications to the divorce court for declarations of L. or validity or invalidity of marriage are made under the provisions of the Judicature Act, 1925 (re enacting the Legitimacy Declaration Act, 1859). Under that Act a person may also claim to establish his right to be deemed a natural born subject (see also as to Scottish law under *DECLARATION*).

Legitimation, in Scots law, is the act by which children born out of wedlock are made lawful for the purpose of extending to them the privileges of truly lawful children. L. *per subsequens matrimonium* is a process derived from the canon law, which allowed the L. of all bastards, whether the offspring of concubinage or not, if the parents were capable of marrying at the date of conception (some authorities say the date of birth) and afterwards actually married. L. *per subsequens matrimonium* gives the bastard the full rights and status of lawfully begotten children. Where parents are domiciled, have bastard children, and then marry in a country the law of which does not recognise L., the children are not capable of succeeding to real estate in Scotland, for the law applicable is the *lex loci rei sitæ*. Another mode of L. recognised by Scots law is by letters of L. from the sovereign (L. *per rescriptum principis*). Generally speaking, the only effect of this mode of L. is to defeat crown rights to property on intestacy, for in form letters of L. confer a right on a bastard who has no lawful issue to dispose of his property during his lifetime or by will, which right he enjoys independently of such letters. It may be mentioned here that the Age of Marriage Act, 1929, which nullifies marriages between persons either of whom is under the age of sixteen, does not affect in Scotland any right or capacity of L. *per subsequens matrimonium*. See W. M. Gloag and R. C. Henderson, *Introduction to the Law of Scotland*, 1946.

Legitimists (fr. *legitimistes*, from *legitime*, lawful, legitimate), name applied to a party in France, who, after the revolution of 1830, continued to uphold the claims of the elder branch of the Bourbon house. The position of Napoleon III. at the head of affairs retarded its cause, but on his fall in 1871 its hopes were raised. The Comte de Chambord gave them his support, but on his death in 1883 it

was practically dissolved, only an insignificant remnant remaining (see *BOURBON FAMILY*). The word legitimists has now spread beyond France, and is applied in England to any supporter of monarchy by hereditary right as against a parli. or other title. It is also used especially with regard to the Habsburg followers in Hungary and Austria.

Legnago, tn. in Verona prov., Italy, 33 m. S.E. of Verona, on the Adige; one of the fort. tns. of the so called 'Quadrilateral'. Pop. 19,000.

Legnano, tn. of Milan prov., Italy, 16 m. N.W. of Milan. Pop. 27,250.

Legnone, Monte, mt. in the Alps, the highest summit of Italy, on the E. side of Lake Como, has an altitude of 8565 ft.

Legouvé, Gabriel Jean Baptiste Ernest Wilfrid (1807-1903), fr. dramatist and academician, b. in Paris. In 1832 he pub. a little vol. of verses entitled *Les Mots bizarres*, followed by a succession of novels, the chief being *Edith de Felsen*. In 1819 he made his mark as a dramatist with *Adrienne Lecouvreur*, written in conjunction with Scribe. In 1855 appeared his tragedy of *Midée*, which achieved a great success. Later he became less prominent as a playwright, and was known for his studies on the character and needs of women and children in France. His *La Femme en France au XIX^e siècle* (1861), *Messieurs les enfants* (1868), *Conférences parisiennes* (1872), *Nos filles et nos fils* (1878), and *Une Éducation de jeune fille* (1881), were works of wide-reaching influence in the moral order. See J. Quéraud, *La France littéraire* (1827-1864).

Legros, Alphonse (1837-1911), Fr. painter, b. May 8 at Dijon. In 1857 he exhibited a profile portrait of his father in the Salon, afterwards presented to the museum at Tours. In 1859 his 'Angelus' was exhibited and was highly praised. In 1863 L. came to England, married, and became teacher of etching at the St. Kensington School of Art, and in 1876 Slade prof. at Univ. College, London, in succession to L. J. Poynter. His pictures are chiefly fr. rural scenes and portraits and etchings. See monographs by L. Bénédite, 1904 and A. J. Halton.

Leguminosæ, very large family of plants, including peas, beans, vetches, clover, acacia, mimosa, gorse, broom, laburnum, etc. They usually have compound pinnate leaves and some of the leaflets are frequently modified to form tendrils. The roots of many members bear nodules containing bacteria that are able to convert atmospheric nitrogen into proteids, etc.; hence the practice of ploughing in crops of clover, etc., to enrich the ground. The flowers of L. are frequently butterfly-shaped; these constitute the sub-family *Papilionaceæ*, which includes all Brit. L. The fruit is a pod (legume). Pollination is by means of insects.

Legya, or *Lahka*, vil. in the S. Shan States, Burma, 120 m. S.E. by E. of Mandalay, produces rice, cotton, and sugar-cane. It manufs. iron and lacquer ware. Pop. (state) 33,000.

Leh, tn. of Kashmir, cap. of Ladakh,

180 m. E. of Srinagar. It is enclosed by a wall and towers, and has sev. Buddhist temples, a rajah's palace, bazaar, observatory, and mint. It is the great rendezvous for intercourse between the Punjab and Tibet, and Chinese Turkestan. It has an active trade in shawl wool. L. lies between the Indus, about 5 m. distant, and a chain of mts. Pop. 24,000.

Lehár, Ferencz (Franz) (1870-1948), Hungarian composer, b. at Komárom or Komarno (now in Czechoslovakia), son of a military bandmaster. For a time he followed his father's calling, though his training at the Prague conservatory was as a violinist. His music shows the influence of the S. Slavonic folk tunes and he first tried to win fame as a composer of serious opera as, for example, in *Kukuska* (later renamed *Tatiana*), produced in 1896; but it was subsequently, in the field of operetta or the 'musical play', that he achieved real distinction and the widest popularity. His best productions in this kind are *The Merry Widow* (1905); *The Count of Luxembourg* (1909); *Gipsy Love* (1910); *Frasquita* (1925); *Frédérica* (1928); and *The Land of Smiles* (1931), all distinguished for light music of a high order deftly orchestrated. In his later work he showed a tendency to forsake the musical play tradition and again sought to achieve the true operatic style, as, for example, in the tragedy, *Giuditha*, produced in Vienna in 1934. He also wrote marches, piano music, a violin concerto, sonatas, and dance compositions. If his most popular productions somewhat outlasted their great initial popularity, he is remembered for his charming melodies and waltzes. See A. Rivroir, *Une Heure de musique avec Lehár*, 1930; also studies by G. Knosp, 1935, and S. Czech, 1940.

Lehigh, riv. in Pennsylvania, U.S.A., 120 m. long. Anthracite mines are worked near it, and it has slack-water navigation to Whitehaven.

Leighton, tn. of Carbon co., Pennsylvania, U.S.A., on the W. bank of the Lehigh R., 20 m. N.W. of Allentown. It has coal-mines and manufs. of silk, wagons, and lace. Pop. 6600.

Lehmann, Lilli (1848-1929), Ger. soprano singer, b. at Würzburg. Studied under her mother, the singer Marie L., appeared at Prague as the first girl in Mozart's *Magic Flute* at an early age, was engaged at Danzig in 1868, at Leipzig in 1870, and made her first appearance in Berlin in the latter year. In 1876 she first sang at the Wagner performances of Bayreuth and in 1880 first visited London.

Lehmann, 'Liza' (Elizabeth Nina Mary Frederika (1862-1918), Eng. singer and composer, b. in London. Studied first with her mother, Amelia Chambers, an accomplished amateur composer, and later at Rome, Wiesbaden, and at home with MacCunn, also singing with Randegger. In 1885 she made her first appearance as a singer at St. James's Hall, where she sang for the last time in 1894, when she married Herbert Bedford.

Lehmann, Rudolf Chambers (1856-1929), Brit. oarsman and journalist, educated at Highgate School and at Trinity

College, Cambridge. Became famous at Trinity College for his rowing. Founded the *Granta* there and coxed the Cambridge crew in 1899 and the Oxford crew many times between 1891 and 1903. Called to the Bar at the Inner Temple, 1880, and ed. the *Daily News* in 1901. On the staff of *Punch*, 1890-1919. Unsuccessfully contested sov. seats between 1886 to 1892 but was elected to the House of Commons as Liberal member for the Market Harborough div. of Leicestershire and sat in the house from 1906 to 1910. Between 1890 and 1913 he pub. various books, including his parodies to *Punch* and *The Complete Oarsman* (1908).

Lehmbruck, Wilhelm (1881-1919), Ger. sculptor and painter, b. at Duisburg. He came of a peasant family, but in early youth was apprenticed to a commercial firm of metalworkers. In 1901, however, he was able to leave on account of a grant which enabled him to study art at the Düsseldorf Academy under the direction of Peter Janssen. Finishing at the academy in 1906, he travelled in France and Italy during the next eight years. Thereafter he lived mainly in Berlin until his death which was by suicide, on March 25, 1919. In his work he strove to express the spiritual and psychological aspects of his subject through his medium and was not deflected from this end by the pursuit of realistic representation. He is remembered particularly for his sculpture of the female figure, in which his romantic, idealistic mood predominates. Works by him were shown posthumously in an exhibition of Ger. artists in Paris in 1927, and he is represented in the museums in Berlin, Munich, and other Ger. tns., and also in New York.

Leibnitz (more commonly known as Leibnitz), Gottfried Wilhelm, Freiherr von (1646-1716), Ger. philosopher and mathematician, b. at Leipzig. In 1661 he entered the univ. of Leipzig as a law student, and in 1686, being refused his doctor's degree on account of his youth, he applied to the univ. tn. of Nuremberg, Altdorf, which not only conferred upon him his degree but offered him a professorial chair. At Nuremberg he made the acquaintance of Baron von Boineburg, who advised him to dedicate his treatise, *Nova methodus docendi discendique juris*, a proposal for the reform of the *Corpus Juris*, to the elector of Mainz. In this way the young man attracted the attention of the elector and entered his service. At first L. assisted in the revision of the statute book. In 1669 he was required to promote by argument the Ger. claims to the vacant throne of Poland, but his *Specimen demonstrationum politicarum pro rege Polonorum eligendo* had not the desired effect, and a Polish prince was elected. At this time Germany was in danger of attacks by the aggressive Louis XIV., and, in order to divert his attention from any such projects, he was approached with a scheme of L. for the Fr. conquest of Egypt. In 1672 L. was summoned to Paris to propound more fully the scheme he had laid down in *De expeditione Egyptiaca et Consilium Aegyptiacum*. It

in the following year he was appointed governor. In this position he showed himself incapable, and was recalled in 1587, dying the following year. See E. Bekker, *Elizabeth and Leicester* 1890 and F. Chamberlain, *The Private Character of Queen Elizabeth*, 1930.



ROBERT DUDLEY EARL OF LEICESTER

Leicester, Thomas William Coke, first Earl of (1752-1812). He was member of Parliament for Norfolk from 1776 until 1806 and again from 1807 until 1812. He became a farmer on a large scale, gaining wide fame by his improvements in crops and in the breed of cattle and sheep. He became, in 1837, earl of Leicester. See A. M. W. Stirling, *Coke of Norfolk and his friends* 1907.

Leicester, county of Leicestershire, England, 47½ m. by rail from London, of the Midland and N. E. railways. It is an ancient county which has grown in a few generations into a large and prosperous industrial city. The borough has four members to Parliament. The development of suburbs and large housing estates has resulted in a considerable growth of the city which now covers 17,000 ac. Pop. 261,300.

History—In the Roman period L., under the title of Ritha Corinunorum, was evidently a large and wealthy town, a fact which may be deduced from the rich mosaic or tessellated pavement found under the city. Two of them may still be seen, in St. Nicholas Street and Black Friars Street respectively. After the lapse of the Roman occupation L. was called by the Saxons Legerceastre and became a see of a bishop, only to lose that distinction for more than a thousand years in 874. The bishopric was transferred to Dorchester in Oxfordshire, during the Dan. invasion, when the Danes held Lancaster, Derby, and other midland towns. By the time of the Domesday survey L. had 332 houses and six churches, and a pop. of about 2000. The hist. of twelfth-

century L. was closely identified with that of the Beaumont family, which, as indicated above, was responsible for the building of St. Mary de Castro Church and the great hall of the castle, where Parliament met in 1426 and again in 1450. After the earl of Leicester with his Flemish mercenaries had supported Richard and Geoffrey against their father, Henry II., the latter retaliated by besieging L., partially destroying the town and demolishing the walls. In 1201 a meeting of barons took place in L. which was to prove a forerunner to the meeting in 1215 at Runnymede. The corporate life of the town was then already taking shape, the ancient portmoot having developed into an oligarchy consisting of the mayor and a self-constituted corporation. The guild merchant, the ancient equivalent of the present day chamber of trade gradually merged with this corporation and this amalgamation of council and chamber of trade governed L. for centuries. In the Civil war L. was for Parliament and although taken by Prince Rupert, it was retaken by Cromwell after the battle of Naseby. It was during the early years of the ensuing Puritan rule in England that Wm. Lisle (q.v.) a country estate of Nottinghamshire was experimenting with a knitting frame with twelve needles.

Buildings and Churches. In spite of many changes enough has remained to illustrate the hist. of the city from Roman times until the present. The centre of the modern city is the Clock Tower, a Victorian mutation Gothic monument near the site of the old L. Gate. Almost all the action in lay W. of this site. At the present time most of the principal shops and public buildings lie in the quarter of the city which is bounded on the N. by the High Street and on the E. by the Gallowtree Gate, Granby Street, and London Road. The town hall is a handsome Renaissance brick building erected about 1875 from the designs of Francis Haines, who belonged to a well-known L. family. It contains the council chamber, lord mayor's parlour, law courts, and various corporation departments. In Bishop Street are the G.O. and the central city reference libraries, and near by the central lending library. Near Victoria Park is De Montfort Hall, the city's prin. hall for meetings and large concerts. In Victoria Park stands the war memorial designed by Sir Edwin Lutyens. Abbey Park and Abbey Grounds are the site of the ancient abbey of St. Mary in the Meadows (de Pratis), better known as L. Abbey, which was founded in 1143 by Robert le Bossu, the second Beaumont earl of L., for canons regular of the order of St. Augustine. It is famous as the place of the death and burial of Cardinal Wolsey. The ruins are those of Carver's House, which was built in the grounds of the destroyed abbey burnt down by Royalist soldiers after the capture of the town by Prince Rupert in 1646. The outline of the walls of some of the abbey buildings have been discovered and are indicated by low walls raised above the turf. Interesting, too, are the church and fine old houses near by

in Belgrave: one of them, Belgrave Hall (c. 1709-13), is now a period museum. Adjoining it is a botanical garden.

The cathedral church of St. Martin was, from the fourteenth century onwards, in a special sense the civic church of the old bor. of L. For that reason, and also because of its central situation, it was chosen to be the cathedral when the new diocese of L. was formed. Near it is the old guildhall and library, surrounded by buildings of various dates. The earliest portions of the old guildhall were erected towards the end of the fourteenth century by the Corpus Christi Gild, an important religious fraternity which had its chapel in St. Martin's Church. The building remained the official headquarters of L. until about 1875, when the present tn. hall was erected on part of the site of the old cattle market. Near St. Martin's is St. Nicholas Church, with a Saxon nave and Norman tower and partly built of Rom. materials. Immediately W. of this church is a fine stretch of Rom. work, known as the Jewry Wall. Excavations of 1936-38 have shown that this wall is the W. wall of the basilica of the Rom. tn., the rest of the building lying underneath the church. The area to the W. of the wall, where lay the forum, a market-place of *Hate Cortanorum* (Rom. L.), has been acquired by the city council for an open space. Other notable anct. L. churches are All Saints', St. Margaret's, and the church of St. Mary de Castro close to L. Castle. There was probably a church on the site of St. Mary de Castro before the Norman Conquest. When later the castle was founded, the church, while retaining its parochial character, became the castle chapel. Robert de Beaumont, count of Meulan and feudal lord of L., placed in it a collegiate body consisting of a dean and seven canons. Much of the present building, including the chancel, belongs to the twelfth century, but the building received considerable alterations and additions at later dates. The earliest stone castle at L. was erected by Robert, count of Meulan, the first of the four Beaumont overlords who ruled L. throughout the twelfth century. This castle was enlarged and improved from time to time so long as the earls of L. and the dukes of Lancaster used it as a residence, but after 1399, when Henry IV., who was duke of Lancaster and earl of L., ascended the throne, the building was allowed to fall into decay. The great hall, however, has survived from the Norman period and is incorporated in the present structure, which was erected in the eighteenth century. Courts of justice are still held in this anct. hall, which has been adapted to modern requirements. L. has suffered severely in the past from the destruction of its historic buildings, and nowhere more so than in the Newark, where the buildings of the Middle Ages and the pleasant houses of the eighteenth century have largely disappeared. Among these was the Newark Chantry House erected by Wm. Wyggeston, a L. wool merchant and four times mayor of the staple of Calais, and the collegiate church of the Annunciation

of Our Lady, founded in 1355-58 by Henry, first duke of Lancaster and fourth Lancastrian earl of L. On this site to-day are the L. colleges of art and technology. The almshouse, Trinity Hospital, was originally founded in 1331 by Henry, third earl of L. of the house of Lancaster, under the title of the Hospital of the Annunciation of the Blessed Virgin Mary in the New Work (i.e. Newark). The main part of the hospital chapel is the original building of 1331 and portions of the old arcades remain embedded in the present modern structure. The Newark Gateway (fourteenth century) was the main entrance to an eccles. enclosure, which contained the church of the Annunciation and its collegiate buildings, together with the associated almshouses and infirmary known as Newark Hospital.

Industries.—The staple trades of L. are engineering, hosiery, and boot and shoe manufs.; and there are many other well estab. industries, including tobacco, spinning, tanning, and the manuf. of agric. machines for the surrounding agric. dist. L. is the greatest hosiery-producing centre in Britain and the greatest centre in the world of the knitwear industry. Many local industries are ancillary to the staple trades, e.g. the tanning and dressing of upper and lining leathers. The needs of the Second World War accelerated the development of engineering in the city, a development which was taking place before the war, so that engineering has become, and is likely to remain, L.'s major industry. Some of the biggest engineering firms in the city are concerned with the manuf. of boot and shoe and hosiery machinery; but there are numerous other engineering activities: typewriters, wood-working machinery, machine tools, lenses and optical instruments, scientific and surgical instruments, electric vehicles, electric clocks, heating and ventilating equipment, cranes, lifts, cinema equipment, electric transformers, gas-meters, turbo-generators, concrete and road-making machinery, aluminium hollow-ware, laundry and dyeing plant, lawn mowers, bakery equipment, watches, fountain-pens, etc. Allied trades include sheet metal works, iron and brass foundries, and the largest pattern-making shop in the country. Near the city are factories concerned with research and manuf. of jet engines. See P. W. Bryan, *A Scientific Study of the Leicester District*, 1933.

Leicester Breed, see under SHEEP.

Leicestershire, midland co. of England. The surface is chiefly low and flat with a few hills, the highest elevation being that of Bardon Hill (912 ft.) in Charnwood Forest (q.v.). The prin. rivs. are the Trent, the Avon, and the Welland. Nearly the whole co. is under cultivation, the pastures being good; cattle are reared extensively, and there is a special breed of sheep known as the New Leicester. Dairy farming is also carried on, and the famous Stilton cheese is made near Molton Mowbray, which is also famous for a certain kind of pork pie. It is a great hunting co., and in consequence horse-breeding flourishes. There are consider-

able mining industries, coal, limestone, freestone, and granite all being found. The co. was famous for its wool as early as 1313, and has large hosiery manufs at Leicester, Loughborough, Hinckley, etc. Boots and shoes are manufactured at Market Harborough, and there are also brick-fields and iron foundries. It contains six hundreds, and returns four members to Parliament. The area is 832½ sq. m. Pop. 580,000. See *Victoria County History*, 'Leicestershire,' 1907.

Leicestershire Regiment. This regiment, the old 17th Foot, was raised in 1688, and fought under William III. in Ireland and Flanders (Namur, 1695). During the Seven Years war it took part in the siege of Louisburg, Cape Breton, and later of Havana. It served in the Amer. War of Independence. In 1804 it went to India and distinguished itself in the first Afghan war (1839). In the Crimea it fought at Sevastopol, then went back to India for the second Afghan war (1878-1879). It formed part of the garrison defending Ladysmith during the S. African war (1899-1902). During the First World War it raised nineteen battalions, which served in France, the Balkans, and Mesopotamia. It was granted the badge of the Royal Tiger, superscribed 'Hindustan,' for distinguished service in India. In the Second World War the regiment formed part of the Brit. forces which fought in Malaya in 1941-42 against the Jap invaders. Other battalions formed part of the Brit. Eighth Army on the It. front.

Leiden, see LEYDEN.

Leis, see LEY.

Leif Eriksson, see ERIKSSON.

Leigh, tn. in Lancashire, England, 7 m. S.W. of Bolton, has extensive textile manufs and glass works, and coal is found in abundance. Parsonage colliery, the deepest in Britain, has been used for research on the relation between depth and the magnetism of the earth. The tn. stands on a branch of the Leeds and Liverpool and Bridgewater Canals. Pop. (1931) 4,000.

Leigh-Mallory, George (1887-1934), Eng. mountaineer, son of Rev. Herbert L.-M., rector of Moberley, Cheshire brother of Air-Marshall L.-M. Scholar of Winchester, 1900; exhibitor of Magdalen College, Cambridge, 1905, master at Charterhouse, 1910; served with Heavy Artillery, 1915-18; secretary and lecturer to the board of extra-mural studies, Cambridge, 1923. A great mountaineer, who began Alpine climbing in 1904, his notable climbs were on Mont Blanc (1911) and Aiguille des Charmoz (1919) (Papers in Alpine Jour., vols. xxxii., xxxiii.). He took a leading part in reconnaissance of Everest (q.v.), 1921, reached nearly 27,000 ft. without oxygen in 1922. In 1924 he and his companion Irvine were almost certainly seen about midday through a gap in the clouds, climbing the N.E. ridge of Everest at over 28,000 ft.; they were not seen again. Mallory has been called 'this Galahad of mountaineering, pure of heart, high of purpose.' His writings show a high appreciation of mountaineering as a

conquest of mind over matter, the physical achievement only a means to enlargement of the mind. He wrote parts of *Mount Everest, The Reconnaissance* (1921) and *The Assault on Mount Everest* (1922). See life by D. Pye, 1927.

Leigh-on-Sea, seaside tn. of Essex, England, 2 m. W. of Southend, of which it is a ward. Pop. 12,000.

Leighton, Frederick Leighton, Baron (1830-96), Eng. painter and sculptor, b. at Scarborough. At Florence he studied



W. F. Munsell

FREDERICK LEIGHTON

(Self portrait)

under Bozzuotti, Segnolini, and Zanetti. After four years there he went to Frankfurt, visited Brussels and Paris, then settled down to study under Ed. and Steiner. His first picture to attract attention in England was 'Cimabue's Madonna,' carried in Procession through the Streets of Florence,' which was exhibited in the Royal Academy in 1857, and which was bought by Queen Victoria. The following year he sent another picture, 'The Triumph of Music,' but it was not so successful, and he did not exhibit again until 1858. In 1860 he moved into his now famous house at Holland Park Road, containing a beautiful Arab hall with Damascus tiles, which has since been purchased by the nation. Among his earlier pictures was the popular 'Wedded,' but it was in his treatment of classical subjects that L. especially excelled. L. was elected an Academician in 1868, and exhibited his diploma picture, 'St. Jerome,' in 1869. He became president in 1878, when he was knighted, being raised to the peerage a few days before his death. His work is characterised by beauty of composition both in form and colour, while his almost perfect draughtsmanship made him unrivalled in his decorative work. L. also excelled as a sculptor; his

'Athlete struggling with a Python' (1877) was purchased by the Olanby Bequest, 'The Sluggard' and 'Needless Alarms' being exhibited in 1886. As an illustrator he also did good work, especially for the outs to Dalziel's Bible, and a series of illustrations for George Elliot's *Romola*, which reveal an unsuspected sense of humour. His decorative work may be seen at the Victoria and Albert Museum in the fresco 'The Industrial Arts of War and Peace,' also his 'Cimabue' in mosaic. Lyndhurst Church also possesses mural decorations illustrating 'The Parable of the Wise and Foolish Virgins,' to the memory of Poppy Cockrell. L. possessed many foreign orders and distinctions, and belonged to all the prin. foreign academies. See Mrs. A. Lang, *Art Annual*, 1884; C. Monkhouse, *British Contemporary Artists*, 1899; and R. Barrington, *The Life, Letters, and Work of Frederick Leighton*, 1906; also lives by E. Rhys, 1900, and G. C. Williamson, 1902.

Leighton, Robert (1811-84), archbishop of Glasgow. From 1841 to 1852 he had the care of a Presbyterian church in Newbattle, Midlothian, and from 1853 to 1860 (?) was principal of his old univ. He wrote *Zion's Plea against the Prelate* and was a victim of Laud's persecutions. For nine years from 1861 he held the bishopric of Dunblane, and in 1870 accepted from Charles II. the archbishopric of Glasgow, his mission from the king being to induce the Presbyterian clergy to become reconciled with their episcopal brethren. Four years later he retired. His writings reveal a true literary sense and an intellectual outlook in advance of that of other divines of his day. His works, with a life, were pub. by J. N. Pearson in 1830. See G. Burnet, *History of his Own Times*, 1723-34; also life by E. A. Knox, 1930.

Leighton Buzzard, mkrt. tn. of Bedfordshire, England. 36 m. N.N.W. of London. Straw-plaiting is the prin. industry, and there is trade in timber, corn, iron, clothing, concrete, and tiles. It has a fine cruciform church and a market cross, restored in 1852. Pop. 8000. See J. Stevenson, *Old Times in Leighton Buzzard*, 1891.

Leinthal, see COLDESTREAN.

Leiningen, former principality of Germany, dating back to the eleventh century, now shared mainly between Baden, Hesse, and Bavaria since the peace of Lunéville in 1801.

Leinster, S.E. prov. of Eire, comprising the cos. of Dublin, Kildare, Carlow, Kilkenny, Leix, Offaly, Longford, Louth, Meath, Westmeath, Wicklow, and Wexford. The MacMurroughs were kings of L. down to the early years of the twelfth century. Their descendants ruled independently in Wexford and Carlow till the sixteenth century. Richard Strongbow accepted L. from Henry II. as a fief of the Crown. Area 7580 sq. m. Pop. 1,240,200.

Leinster Regiment. Formerly 100th and 109th Regiments, which were linked in 1881. The 100th was raised in 1857 from Canadian volunteers at the time of the Indian mutiny, hence its title 100th or Prince of Wales's Royal Canadians. Its Canadian origin was represented by a

maple leaf in each of the four corners of the regimental colour. The 109th was raised as the 3rd Bombay European Infantry, and served under Sir Hugh Rose in central India during the Indian mutiny. The linked regiment served during the S. African war, 1899-1902. During the First World War it raised seven battalions, which served in France, Flanders, Macedonia, Gallipoli, and Palestine. After the inauguration of the Irish Free State the regiment was disbanded, on July 31, 1922.

Leipa, see BOHMISCH-LEIPA.

Leipzig, tn. 350 ft. above sea level and 70 m. N.W. of Dresden in Saxony, Germany. It is situated in a flat and fertile tract of country, close to the confluence of the Elster, Pleisse, and Parthe, and it has a connection to the Mittelland Canal. There are two great fairs, held at Easter and Michaelmas. L. has gained world recognition as the centre of the well-organised Ger. book trade and the headquarters of the trade organisation, which includes publishers and booksellers. Cigars, lace, ethereal oils, etc. were manufactured. Before the Second World War there were flourishing iron, machinery, and cotton industries, served by the brown coal deposits near by. Until this time L. was, with London and New York, one of the most important fur-trading centres of the world. The Gothic Rathaus, built in 1556, flanks one side of the spacious market square, near by is Auerbach's 'Hof' (1530), associated with Goethe's *Faust*. In air raids in the Second World War the Opera House, the Dresdner bank, the univ., the main post office, and the exhibition hall, besides all the main hotels, suffered damage. L. is pre-eminent in art and culture. After Berlin and Munich it has the largest number of undergraduates, and traces the hist. of its univ. back to 1409. Mendelssohn founded the conservatoire in 1843, and the Gewandhaus concerts, the operas, and the numerous choral and orchestral societies bore witness to the fullness of its musical life. In the neighbourhood is the famous battlefield where in 1813 Napoleon was defeated by the allies.

L., like Dresden and Chemnitz, suffered severely in the Second World War from Brit. and Amer. heavy bombers and was on sev. occasions raided at the same time as the other two cities particularly in Feb. 1945, when devastating blows were delivered in order to help Marshal Konev's First Ukrainian Front armies in their invasion of Silesia. L. was eventually taken by Gen. Hodge's First Amer. Army on April 17, 1945. The city fell to the Amer. at midnight after armour of Hodge's forces had reduced the last Ger. strongpoints manned by S.S. troops. Pop. 700,600.

Leiria: 1. Dist. of Estremadura prov., Portugal, with the Atlantic to the W. The dist. slopes to the sea from a range of hills which runs from N. to S. in the centre of the dist. Cap. L. Area 1317 sq. m. Pop. 353,600. 2. Cap. of the above dist. on the R. Liz, 76 m. N. of Lisbon. There is a twelfth-century ruined castle with an early Gothic church; the sixteenth-

century cathedral was modernised in the eighteenth century. There are manufs. of iron and glass. Pop. 5900.

Leisnig, tn. and summer resort in Saxony, Germany, 28 m. E.S.E. of Leipzig. Its manufs. include textiles, shoes, and machinery. Pop. 8100.

Leiston, or **Leiston cum Sizewell**, par. and vil. in Suffolk, England, 21 m. S.S.W. of Lowestoft. There are iron and agric. implement works. It contains ruins of a twelfth-century abbey. Pop. 4100.

Leitch, Archibald (1878-1931), Eng. physician and bacteriologist, educated at Rothesay Academy and Glasgow Univ. His earliest work in London was in the cancer research laboratories of the Middlesex Hospital, and it is for his work in cancer research that he will be remembered. In the First World War he was in charge of a mobile bacteriological laboratory; in 1920 he was made director of the research dept. at the Cancer Hospital, and in 1927 he was appointed to the chair of experimental pathology in London Univ. tenable at the hospital. Perhaps his best work was in the study of mule splinters, cancer and the cancers induced by tar. He evolved a new code of knowledge on cancer-producing substances which led him to take the view that cancer is not caused by any one agent, but by many.

Leith, port of Edinburgh, Scotland. It is situated on the S. shore of the firth of Forth in the co. of Midlothian, and its S. extremity adjoins the N. border of the metropolis, with which it has been incorporated since 1920. It has much traffic with the ports of Antwerp, Copenhagen, and Christiansand, etc. The harbour, dock, and warehouse accommodation is excellent. Shipbuilding, distilling, engineering, soap-boiling, and sugar-refining are the chief industries. Pop. 82,000.

Leith Hill, highest point in S.E. England, 1 m. from Goldharbour, near Dorking, Surrey. Height 965 ft. From the top of the tower on the summit thirteen cos. can be seen.

Leit-motif (Ger., leading motive) musical term used to describe a distinctive passage or phrase forming the prin. theme of a composition, or symbolising persons or ideas. It was first popularised by Wagner for the basic material of his musical dramas.

Leitrim, maritime co. of Eire, in the prov. of Connaught, bounded N.W. by Donegal Bay. The surface of the co. varies, the N. being mountainous, the S. more or less level; the scenery is extremely beautiful. In the N. are the Drinkmore Hills, and E. of Lough Allen is Slieve Aurlin (1922 ft.), the highest point of the co. The chief rivs. are the Shannon, the Bonnet, the Drones, and the Duff. There are numerous loughs, of which Lough Allen (8900 ac.) is the largest, the trout fishing being very good. A small quantity of coal is found, and iron and lead are abundant in the mountainous parts, but the co. is not very productive; the soil is moist and heavy, and the grain crops are poor. Potatoes are grown and some cattle and sheep are reared. Linen and woollens of a rough kind are manufactured,

and there are some potteries. L. is divided into five baronies, but the only tns. of importance are Carrick-on-Shannon and Manor Hamilton. The tn. of L. is a few m. N. of Carrick-on-Shannon. Four members are elected to the Dail. Area 619 sq. m. Pop. 44,500.

Leix, or **Laoighis** (Queen's County), co. in the prov. of Leinster, Eire, formerly called Queen's Co. and lying N. of Offaly (once King's Co.). Except in the N.W., where the Slieve Bloom Mts. lie, the surface is flat; in the centre there is some bog. The Barrow and the Nore are the chief rivs. L. includes a part of the Leinster coalfield, and limestone and clay ironstone are worked. Agriculture and dairy farming are carried on, and there are some small factories for cotton and woollen piece goods. L. was made a shire in 1556 and named after Queen Mary I. The co. tn. is Maryborough (Laoighise). Other tns. are Portllington and Abbeyfeix. Area 661 sq. m. Pop. 49,600.

Lekeu, Guillaume (1870-94), Belgian musical composer, b. at Heusy, Verriers. He completed his musical education under G. Vallin, and became a pupil of César Franck. On the latter's death L. studied under d'Indy and gained second prize in the Prix de Rome competition. L. was regarded as the leading representative of the Belgian branch of the Fr. school, and, had he lived, would probably have become a greater master than Franck, and one of the greatest masters of the transition from the nineteenth to the twentieth century. His composition is said to resemble Beethoven's in feeling and spontaneity, and his themes are so striking that once heard they are not easily forgotten. Works: *Orchestral*, *Fantaisie sur deux airs populaires angevins*; *Symphonic studies on Hamlet*; *Chant de triomphale delirance*; *lyrical comedy*, *Barberine* (incomplete).

Leki, see **LESQHIANS**.

Leland, Charles Godfrey (1824-1903), Amer. author, b. at Philadelphia. He was admitted to the Bar in Philadelphia (1851), but soon devoted all his time to literary work of an editorial and journalistic nature. Gypsy language and hist. was one of his special studies, and he also obtained a reputation as a Ger. scholar. In 1861 he estab. the *Continental Magazine* in Boston. L.'s best known work is *Hans Breitmann's Ballads* (1914), recounting the numerous diverting adventures of their hero, told in the patois termed Pennsylvania Dutch. He is also the author of *Sunshine in Thought*; *English Gypsies and their Language*; *English Gypsy Songs*; *Autobiographical Memoirs*, etc. See life by E. K. Lennell, 1905.

Leland, John (c. 1506-52), Eng. antiquary, b. in London, was educated at St. Paul's School, Christ's College, Cambridge, and All Souls' College, Oxford. Taking holy orders, he became chaplain and librarian to Henry VIII. in 1533, and also received the commission of king's antiquary, with power to search for records, MSS., and documents of antiquity in all the religious houses of England. In 1536 he was made canon and a rebend of King's

College, Oxford, and a prebend of Salla-bury. Most of L.'s work was in MS. at the time of his death, the bulk being deposited by Burton in the Bodleian at Oxford. His most important works are the *Itinerary*, a record of antiquarian travels in England and Wales (1710-12); the *Commentarii de Scriptoribus Britannicis* (1709); and *De Rebus Britannicis Collectanea* (1774). See lives by E. Burton, 1549, and W. Huddesford, 1772; also J. Bale, *Catalogues*, 1557, and L. Smith, *The Itinerary*, 1907.

Leleges, anot. race, often mentioned, with the Pelasgians, as the most ant. inhab. of Greece. Piracy is said to have been their chief occupation. They are represented as the ancestors of the Teleboans and the Taphians, who were notorious for their piracies. The L. are described in the *Iliad* as a tribe in S.W. Troas, and as allies of the Trojans.

Lelewel, Joachim (1786-1861), Polish historian, b. at Warsaw. He became lecturer in hist. at Vilna (1814). He retained the chair till 1824, when he was dismissed on suspicion of having taken part in secret revolutionary proceedings. In 1829 he became a prominent leader of the Polish revolution and on the failure of the uprising fled to France. His writings are by no means confined to Polish hist., though his chief work is the series of books on that subject collected under the title of *Poland, her History and Affairs Surveyed*, pub. in 20 vols. (1853-76). Another important pub. was *La Géographie du moyen âge* (1850-52). See monographs by S. P. Koczowski, 1927, and A. Śliwiński, 1932.

Lely, Sir Peter, (1618-80), Dutch painter, b. probably in Holland of Dutch parentage, studied in Haarlem under F. P. de Grobber. When William of Orange came to England in 1641 L. was in his train. L. painted many portraits of William and his bride Mary, which were much admired in England, and he was soon appointed one of the court painters. Perhaps the temporary absence of Van Dyck tempted L. to try his fortune in this country, and, with the favour bestowed upon him by the court, and his general popularity, he soon estab. a large practice.

When L. arrived in England he immediately dropped the Dutch style of painting for that of Van Dyck. When the monarchy was overthrown, and during the period of Puritanism that followed, L. altered his style to one of 'dour severity'; but it was during the Restoration that L.'s full powers were revealed. After the period of restriction a burst of exuberance followed, in which L. excelled, and he dominated the seventeenth-century group of Stuart portrait painters. The symphonic rhythm and subtle colour which prevailed throughout all his paintings set him apart from his many imitators. During the Restoration period L. painted his best works, namely, the two great series, the 'Flagmen' and the 'Windor Beauties'. In the latter L. was successful in bringing out the sensual attraction of his sitters. He was buried in the Covent Garden church of St. Paul

and was succeeded at court by Sir Godfrey Kneller. See C. Baher, *Lely and the Stuart Portrait Painters*.

Lemaître, François Elle Jules (1853-1914), Fr. poet and dramatist, b. at Veneecy, Loiret. From 1875 to 1879 he was prof. of rhetoric at the lycée of Havre, and from 1879 to 1881 prof. at the Ecole des Lettres, Algiers. He first came to the notice of the public in 1880 with a small vol. of verse, entitled *Les Médailles*, followed, in 1882, by *La Comédie après Molière*, and in 1883 by *Petites orientales*. In 1884 he held a professorship at Grenoble, which, however, he soon abandoned, and devoted himself exclusively to literary work. In 1895 he was elected a member of the Fr. Academy. Besides the works already mentioned he pub. *Les Rois Sévères* (1886); *Les Contemporains* (1887); *Impressions de théâtre*, chiefly literary essays (1888-1920); *Myrrha* (1894); *Contes en marge des vieux livres*, fiction (1905, 1907); and the plays *Les Rois* (1893); *Revolte* (1895); *Le Pardon* (1895); *L'Amie* (1898); *La Massière* (1905); *Bertrade* (1906); and *La Vieillesse d'Hélène* (1914). See lives by H. Baidcaux, 1920, and H. Moïce, 1924; also L. Grimm, *Lemaître als Kritiker des französischen Theater*, 1927.



GENERAL LEMAN

Leman, Gerart Mathieu Joseph Georges (1851-1920), Belgian general; was, before the First World War, director of studies at the military school at Brussels, with considerable repute as a mathematician. He became general in 1912, and attained celebrity by his defence of Liège against the Ger. invader, Aug. 1914. On the 14th he was overcome by fumes of exploding shells at Fort Lonclun, and taken prisoner. He was created a count.

Le Mans, see MANS, LE.

Lemberg, see LVOV.

Lemercier, Jacques (c. 1585-1660), Fr. architect and sculptor, b. at Pontoise. He went to Rome in 1607, remaining there

till 1620, when he returned to France and was patronised by Richelieu, becoming architect to Louis XIII., and being put in charge of the Louvre and the Tuileries. In 1629 he built the church of the Sorbonne and part of the Palais Richelieu, and then succeeded Mansard as director of the works of the Val-de-Grâce. In 1653 he built the church of Saint-Roch in Paris, and later the church of Reuil and Bagnollet. See L. Batiffol, *Le Louvre*, 1930.

Lemery, Nicolas (1615-1715), Fr. chemist, b. at Rouen, was contemporary with Boyle. He is remembered as a skillful experimenter who, breaking with traditional alchemy, adhered closely to observed experimental fact. He became physician to Louis XIV. His *Cours de chimie*, a standard work for many years, was pub. in 1667.

Lemming, small rodent, belonging, like the short-tailed kang, field mouse and the water-rat, to the sub-family voles (*Arvicolinae*), which is part of the family Muridae, in the order Rodentia. Its zoological name is *Myodes lemmus* (in the continental form, *Citellulus lemmings*). It has brownish-yellow fur, a short tail, about partially concealed ears, and a very short tail. In length it is about 5 in., and it has a blunted muzzle, black beady eyes, and dark brown or black spots on its back. It is abundant in the plateaus above the pine belt in the mts. of Norway and Sweden. They feed on grasses, lichens, and shoots of dwarf birch, and are never carnivorous. Their nests, which are built of straw and lined with hair, are hidden in the grass or under stones, and are inhabited by five young at a time; they breed at least twice in a year. About every three years, after they have multiplied their numbers to a great extent, armies of these restless little animals march seawards, causing great destruction in their path, and drawing after them a host of eagles, wolves, foxes, and other predatory beasts. During these extraordinary migrations, which last from one to three years according to the distance to be traversed, they only travel by night. Thousands die by the way, and certain death awaits those which on reaching the sea, plunge in and swimming onwards in the same direction, perish beneath the waves.

Lemniscate (Lat. *lemniscatus*, ribboned), curve invented by Jakob Bernoulli, occurring in many mathematical problems. It may be defined as the locus moving so that the product of its distances from two fixed points is constant, and equal to the square of half the distance between those fixed points. See H. Brocard, *Notes de bibliographie des courbes géométriques*, 1897-99.

Lemnos, or **Limnos** (modern, Limni), is. of the Grecian archipelago, midway between Mt. Athos and the coast of Asia Minor. It is of irregular form and hilly, and presents volcanic formations. It produces grain, oil, wine, fruits, and tobacco, and in former times the celebrated Lemnian earth was exported. It was at one time a possession of Athens. The chief port and town is Kastro on the W.

coast. Rich in classical associations, L. was celebrated as the habitat of the Thracian Sinties. Gk. mythology has it that when the Argonauts landed at L., they found it inhabited only by women, who had murdered their husbands. By the Lemnian women the Argonauts became the fathers of the Minyae, who were ultimately expelled by the Pelasgians. Darius conquered the is., but Miltiades delivered it from the Persians and made it subject to Athens. In 1657 it was taken by the Turks. The armistice with the allies after the First World War was signed by the Turks at Andros on Oct. 30, 1919. Area 180 sq. m. Pop. 21,000.

Le Moine, Sir James Macpherson (1825-1902), Canadian author, b. at Quebec, was knighted in 1897 for his literary work. Among his chief pub. are *Picturesque Quebec* (1828); *L'Ornithologie du Canada* (1862); *Les Pêcheries du Canada* (1862); *Quebec Past and Present* (1876); *Canadian Heronies* (1887); *Legends of St. Lawrence* (1898); and *The Annals of the Port of Quebec* (1901).

Lemon, Mark (1809-70), Brit. author, wrote novels, fables, and melodramas, and was a prolific contributor to many periodicals. He ed. the *Family Herald* and *Once a Week*, but is best known as one of the founders of *Punch*, over the destinies of which he presided from its birth in 1841 until his death. As editor of *Punch* he was the right man in the right place, and he surrounded himself with such valuable supporters as Thackeray, Jerrold, Leech, Keene, and Tenniel. He was an intimate friend of Dickens for many years.

Lemon, valuable fruit produced by *Citrus limonum*, a sub-tropical tree or shrub, and its many varieties. L. culture is the main industry in Sicily, but in many other dists. with suitable climates, including California and Rhodesia, the fruit is grown on a large scale. Like other citrus plants the L. grows well on greenhouse walls, and the fruit which is allowed to ripen on the tree is greatly superior to imported fruit gathered before the flavour could mature. The L. is distinguished from the citron by its thin rind, and is longer and less knobbed at the tip. The lime (*q. v.*) is more globular.

Lemonade, beverage obtained by extracting the juice of fresh lemons, mixing with water, and sweetening. It quickly allays thirst, and is useful in febrile and inflammatory complaints, especially when acid. Aerated water flavoured with lime juice, tartaric acid, or essence of lemons is also called L.

Lemonnier, Camille (1845-1913), Belgian art critic and novelist, b. in Brussels. His first book, *Salon de Bruxelles* (1863), was a vol. of art criticism. The 'realistic' tendency of his studies of peasant life more than once involved him in trouble with the authorities. He was three times prosecuted on the same grounds, being once fined and twice acquitted. His other works include *Nos Flamands* (1869); *Salon de Paris* (1870); *Un Coin du village* (1879); *Un Mâle* (1881); *La Belgique* (1888); *Théâtre* (1899); *L'Amant*

Passionnée (1905), *La Maison qui dort* (1909), and *I déte* (1912).

Lemon Sole, or **Smeat Dab**, is the popular name of *Pleuronectes microcephalus*, a species of flat fish belonging to the teleostean family Pleuronectidae. It is found from the bay of Biscay to the N. coasts of Europe and is widely consumed its flesh however, being inferior in flavour and firmness to that of *Solea vulgaris*, the common sole, a member of the same family. The L. S. has its head twisted at a right angle, so that both eyes lie on the right side, the dorsal fin commencing above the eye. Its skin is smooth and of a brownish-yellow colour, with light and dark spots.

Le Moyné, Charles, Sieur de Longueuil (1626-83) Canadian explorer b in Normandy, first served in the Fr. Army, and then emigrated to Canada where he became interested in colonisation. He lived for a time among the Hurons and obtained from them a concession to rebuild the fort at Niagara, which work he was engaged on when he d. Of his sons few were well known pioneers. His son Charles (1656-1729) was at the defence of Quebec in 1690. He was made a baron and governor of Montreal, 1700, and commandant general of Canada 1711.

Lemoyné, François (1658-1737) Fr. painter b at Paris, studied under Galloche and in 1711 won the Prix de Rome with his picture, 'Ruth and Boaz'. In 1718 he became an academicien. His title to fame rests chiefly on the decoration of the vault of the Salon d'Hercule at Versailles 64 ft in length and containing 142 pictures of great merit.

Lemprière, John (c. 1765-1824) Eng. classical scholar b in Jersey (Channel Is.). He took orders and became headmaster of schools in Abingdon and Exeter and later held two livings in Devonshire. He is best known as the author of the classical dictionary, *Bibliotheca Classica* (first pub. in 1755) founded on Sabinus's *Dictionnaire des auteurs classiques* and he also wrote a *Dictionary of Universal Biography* (1808).

Lemur, name applied to members of the order Primates, and so called originally because of their nocturnal habits and rather ghostly appearance at night. They are divided into four sub-families and of these we have representatives in the black L. the dwarf L. grey slow loris, and the slender loris. The distinguishing characteristics of the typical L. are the thick woolly fur, dog-like snout and nostrils and the structure and number of the teeth. The true Ls (i.e. black L.) are not nocturnal. Ls are found in Madagascar and W. Africa, India, Malay, and Indo-China. They all inhabit trees, and their diet consists of fruit, birds and their eggs, small reptiles and insects.

Lemur, or Ghost, figures in Rom. superstition. The 'lemures' were evil spirits who wandered about in search of mischief; they were thus distinguished from the 'manes,' or 'spirits of the dead' by their wicked intent. The Romans sought to appease them during the festival of the Lemuria, which was held annually on

May 9, 11, and 13. The name so they said, was a corruption of Lemuria which referred to Remus, Romulus's brother, being so called because the purpose of its celebration was the satisfaction of his shade. During the festival no man might marry, and all shrines and temples were closed. Ovid describes in his *Fasts* the curious rite which the patrifamilias performed. Rising at midnight he traversed his house with bare feet and washed hands and nine times spat a black bean from his mouth and with backward glance cried 'Thus I redeem me and mine.' The belief was that the evil 'lemures' either picked up the beans or else entered into them. Then the father washed again, beat kettles and clanged his brazen vessels and nine times repeated the courteous request 'Manes exite patrum' (Shades of our fathers depart). It was necessary to exorcise these ghosts as they alarmed good men, and haunted those of evil conscience. Some have held that there were elements of ancestor worship in this rite.

Lena, formerly **Pola de Lena**, in and com. in the prov. of Oviedo, Spain, 15 m S. of Oviedo. Pop. 40,000.

Lena, largest riv. in Siberia and one of the prim. rivs. of Asia. It rises in the Bural Mts. near the W. shore of Lake Baikal and enters the Arctic Ocean by many mouths. Its total course is over 2700 m. the whole being in Russian dominions. Its chief tribs. are the Vitim, Olekhma, Aldan and Vilyu. Between the upper L. and the source of the Aldan R. is mt. and plateau country rising from 1200 to 4000 ft. and the highland is on each side of the upper L. at its 1000 to 3000 ft. The L. basin is divided from the Amur basin by the Stanovoi geologic system or ranges of high mts. (9000 ft.) originally formed in the Caledonian period. The L. like the Yana and Kama flows through a region of perpetually frozen sub-soil and long hard winters—the temp. in Jan. averages -20 in the L. region. Hence navigation is very short and at times the riv. is impeded by ice floes throughout the summer though normally it is ice free for four months at the mouth and delta and for over five months in the S.

Although the L. is over 2700 m. in length and navigable as far as Khatanga it is improbable that it can ever rival the importance of the Yenisei as a commercial waterway. Its total length of navigable waterways is however 7110 m. of which nearly 5000 m. are utilized by steamers. The L. basin is the most important centre of production of gold and platinum in Russia. The Vitim, Olekhma, and Aldan flow into the L. from the great arc of mts., the Stanovoi and Dzhug Dzhug ranges, which rise to over 9000 ft. and form the lofty physical barrier between the plateau of Yakutia and the Pacific coast to the E. and the Amur basin to the S. Only the lower parts of these tribs. are navigable. The Vitim, for example, is impeded by falls some 340 m. above its confluence with the L. In its lower course the L. receives practically no tribs. The valley of the lower L. is broad and of low elevation. Near the mouth the L. flows through a

region which in winter presents the aspect of a grim frozen waste, and in summer a labyrinth of rock and flood-lakes. There is a very large delta, the numerous streams of which are impeded by great numbers of shoals and mud-banks. The upper valley of the L. is so narrow that agriculture is restricted to relatively small areas and trapping and lumbering are the chief occupations. The valley is, however, of considerable importance as a highway between Irkutsk on the Trans-Siberian Railway and Yakutsk. Verkholeusk, the administrative centre for the upper L., is a settlement of some importance. Other centres or trading stations include Kachug, 150 m. N. of Irkutsk, with a raft-borne cattle trade; Zhigalovo, with a shipbuilding and repairing yard; Kirensk, a comparatively large settlement also engaged in wood-working and ship-repairing; and Vitim, at the confluence of the L. and the Vitim. The plateaus and valleys of the Vitim-Olekma-Aldan region, together with the L. valley to the N. of the plateaus, comprise the most valuable gold-producing region of Russia. The chief mining vils. or settlements are Nizhnyy Ulen, and Nodzhinsk, and these are also engaged in the fur trade. Tornot and Aldan are important settlements in the Aldan gold-producing region. Some of these vils. or settlements are relatively large towns, containing new two-storied brick-built houses, office buildings, stores, warehouses, and workshops.

Le Nain, Antoine, Louis, and Matthieu, see **NAIN, L.**

Lenard, Philipp (1862-1947). Ger. physicist, *b.* at Pozsony in Hungary, educated at Budapest, Vienna, Berlin, and Heidelberg; and prof. at Heidelberg 1896-98, Kiel, 1898-1907, and Heidelberg again, 1907-31. His investigation of the cathode rays showed that the electrons of which they were composed could pass right through atoms, and hence that much of the space within atoms was empty. For this work he received a Nobel prize in 1905. He demonstrated that in the photo-electric effect electrons are released by the action of light, carried out fundamental work on the phosphorescence, and made the first measurements of ionization potentials. Of a jealous and unfriendly disposition, he became a staunch supporter of the Nazi regime, an anti-Semite, and a bitter critic of Einstein.

Lenau, Nikolaus (1802-50), pen-name of Nikolaus Niemsch von Strehlenau, Austrian poet, *b.* at Csatad, Hungary. His first pub. poems appeared in 1827, and in 1832 he pub. a vol. of poems dedicated to the Swabian poet, Gustav Schwab. Besides his *Schieflied*, and short lyric effusions, L. wrote *Faust* (1836); *Saronarola* (1837); and *Die Albigenser* (1842). His collected works were pub. by A. Grim in 1866. See lives by A. X. Schurz, 1863, 1913 (enlarged by E. Castle); L. Heynaud, 1904; V. Terrante, 1934 (with bibliography); and M. Schaefferberg, 1935.

Lenbach, Franz (1836-1904), chief Ger. portrait painter of the nineteenth century, *b.* at Schorbenhausen, Upper Bavaria.

He became a pupil of Piloty, whom he accompanied to Italy, where he studied the old masters. On his return to Munich he soon recognised that his chief strength lay in portraiture, and at Rome, where he spent many of his winters, he soon became the centre of a brilliant artistic circle. His best known portraits are those of Bismarck, Moltke, Gladstone, Wagner, Strauss, and Liszt. See monograph by A. Rosenberg (5th ed.), 1911.

Lencas, see **CHONTALS.**

Lenclos, Anne, or Ninon de (1616-1706), Parisian courtesan, *b.* in Paris, famed equally for her beauty and intellect. She had a succession of lovers, including Saint-Evremond, Gaspard de Coligny, Rochefoucauld, and Condé, but in spite of these liaisons was greatly admired for her wit and intellectual culture, and soon became the leader of society in Paris and the friend of Mme de Maintenon, Mme de la Fayette, and Voltaire. See Helen K. Hayes, *The Real Ninon de Lenclos*, 1905; Mary C. Rowell, *Ninon de Lenclos and her Century*, 1910; and C. Austin, *The Immortal Ninon*, 1929.

Lenczyca, or Lechysa, tn. in the prov. of Kalisz, Poland, situated 80 m. W.S.W. of Warsaw. Pop. 10,000.

Lendinara, tn. of the prov. of Rovigo, Venetia, Italy. Pop. 16,600.

Lend-Lease. The Lend-Lease Act, 1941, which constituted an innovation of supreme importance in the hist. of economic policy, was passed by the U.S. Congress in March 1941 and provided that the President might authorise the manuf. or procurement of 'any defence article' for the government of any country whose defence the President deemed vital to the defence of the United States; and that he might permit competent authorities to 'sell, transfer title to, exchange, lease, lend, or otherwise dispose of to any such government any defence article,' etc. 'Defence article' is defined as including not only weapons, munitions, and ships, but 'any agricultural, industrial, or other commodity or article for defence.' Under this Act not only the Brit. Commonwealth, but all the allied nations, and also fighting France, the S. Amer. neutrals, Turkey, Egypt, Iraq, and Persia were declared eligible for L.-L. This was, however, a perfectly constitutional development, for the Act depended on the constitutional authority of Congress 'to provide for the common defence and welfare of the United States,' as devised in the historic constituent assembly by Alexander Hamilton. Master L.-L. agreements were negotiated with numerous countries. Reciprocal L.-L. agreements were also signed with a number of countries, including Great Britain, providing that each country receiving L.-L. aid from the U.S.A. should furnish in return such goods and services as it could supply and as the U.S. Gov. required for its own war effort, without any consideration being given to the maintenance of a balance between the values of goods and services received and given. The office of L.-L. Administration was estab. in Oct. 1941, to list and arrange the procurement of

supplies under the Act. The functions of this office were to ascertain the eligibility of applications according to the Act and in the light of current policy to ascertain whether the applications were compatible with the war production programme of the allied nations, and to forward approved applications to the appropriate agency. L. L. supplies were not subject to export licence and were available only to governments and not to private individuals. The office was therefore in constant contact with foreign governments and had its own missions or representatives in several of the countries concerned. Thus the Harriman mission in London represented the office and the War Shipping Administration. The Maxwell mission in Egypt and the Wheeler mission in the Persian Gulf in addition to their purely military functions, expedited and supervised L. L. supplies. Other missions were sent to Australia, India and S. Africa while special representatives were sent to the Middle East supply centre and to Persia.

United Kingdom Lend Lease.—The United Kingdom also made L. L. payments to the other countries of the allied nations. Up to the middle of 1943 the United Kingdom had made such payments to a total of £2,500,000,000 in excess of the sums received from the allied nations. In this reverse operation the following were among the outstanding contributions which the Brit. Commonwealth had made during this critical period of the Second World War.

U. S. receipts, bindings, erected in the United Kingdom for Amer. forces: \$2,000,000; goods and services transferred in United Kingdom: \$2,000,000; shipping service: £12,000,000; total from the United Kingdom: \$216,000,000. From Australia: \$19,000,000; from New Zealand: £12,750,000; from India: £11,220,000; grand total received by the U. S. A.: \$291,975,000. Russ. receipts from United Kingdom: vehicles and trucks: \$93,000,000; guns and ammunition: £16,000,000; aircraft and equipment: £6,000,000; industrial materials and naval supplies: £3,000,000; total: £179,000,000. These estimates cover only a part of the field in which aid was given by the United Kingdom, nor is account taken of manifold services which are not so easily estimated in terms of pounds and dollars and there are other instances of which designedly no definite record was kept.

Figures issued by the Ministry of Production in Sept. 1944 of the Brit. aid for the invasion of France reflect the extent of reverse L. L. to U. S. forces: thus 5000 special trucks were lent to the Amer. forces for the invasion; the military equipment provided for the Amer. forces included 11,000,000 rounds of small arms ammunition in France, where damaged ports had to be repaired; the Amers. were given 2110 pontoon units. Before the invasion started the United Kingdom had become an armed camp for the Amers., and by June 30, 1944, some \$49,181,000 had been spent by the War Office on new buildings for the Amer. forces. This sum

covered the cost of storage and workshops: 174 m. of railway track, 200 m. of roads in camps and depots, accommodation for 750,000 men and hospital space for 100,000 beds. About 40,000 men worked for 25 months to achieve this result and 150,000 tons of stores were used.

L. L. officially terminated on Aug. 21, 1945, by presidential order and negotiations were instituted for the disposal of the \$2,000,000,000 worth of goods in transit and some \$1,500,000,000 worth in stock piles throughout the world. The countries affected by the order included Great Britain, France, Belgium, the Netherlands, Austria, New Zealand, China and India. As at July 1945, the money value of L. L. material totalled nearly \$12,000,000,000 while the money value placed on reverse L. L. (i.e. goods and services supplied to U. S. forces abroad) was estimated at \$5,500,000,000. According to Congress on Aug. 30, President Truman said that to attempt the collection of the \$12,000,000,000 worth sent to the United Nations would threaten their political stability and help sow the seeds of a new world conflagration. Moreover, he recognised the disastrous effects on U. S. trade and hence upon production and employment which would result from adding back the \$12,000,000,000 to the other enormous obligations of the foreign countries concerned.

In the twenty-third report to Congress on L. L. President Truman disclosed that the Brit. Government received 60 per cent. of all L. L. aid to allied countries. The figure for the Brit. Commonwealth was over \$787,000,000. Russia received 25 per cent., i.e. £590,000,000. L. L. aid by the U. S. A. from May 1, 1941, to Sept. 30, 1945, amounted to £126,150,000,000.

Lentant Jacques (1661-1728), English novelist and writer. He was ordained to the Protestant Church in England, but about the year 1684, among his writings, principally on theology, may be mentioned his *Life of the N. P. in France*, which he annotated and published in collaboration with Benbow.

Lenpen, Suzanne (1891-1948). English tennis player. As at Compiegne, instructed by her father, she became champion of England at the age of fourteen. In 1914 won the hard court singles and doubles. On her debut at Wimbledon in 1919 she won the English ladies' doubles championship and also the ladies' doubles with Miss F. G. G. retaining the title until 1925 and retaining it in 1925 for a period of illness. In 1927 she became a professional but retired the following year. She was Olympic champion in 1921.

Length, Measure of see under **WEIGHTS AND MEASURES**.

Lenin (1870-1924), pseudonym adopted by Vladimir Ilyich Ulianov, first president of the Union of Socialist and Soviet States of Russia. He was born at Simbirsk, now Penza, S. of Kazan, on April 10. His father was a native of Astrakhan and an inspector of schools and Ulianov attended the public school at Simbirsk. The circle of his father's home was that of the

middle class urban intelligentsia which ardently cultivated book learning was keenly interested in abstract ideas, but had little time for the arts and was at most indifferent to the Russian national tradition. The early years were spent in an atmosphere of revolutionary protest against social conditions and he was scarcely seventeen years of age when his brother Alexander was executed for complicity in an attempt to assassinate the tsar in 1887. This intensified his revolutionary sentiments though emotion never played a great part in his personal life. He proceeded to Kazan University to study law but was expelled thirty days afterwards for the extreme violence of his utterances on political matters. It must be remembered that as the brother of an executed rebel he was under prejudiced observation. During his term of banishment he studied the agrarian question and came under the influence of Karl Marx's *Das Kapital*. The horrors of the famine of 1891 served to inflame his passion against existing inequalities of property and he became convinced that Marxism was the only way of salvation for the Russian people. He wrote *The New Economic Movement Among the Peasantry* in 1892 while at St. Petersburg University. It was not published though it achieved the significance of a place in the Russian secret Police archives. His law studies and a natural bent for analysis led him to avoid the idealism often associated with visionaries; he was in all things a realist.

At St. Petersburg he formed the Militant Union for the liberation of the Working Classes and organised strikes among factory work which were successful except in proving the existence of the will to strike. In 1897 he was sentenced to hard-labour to Siberia and in 1900 established quarters at Munich, whence he issued numerous pamphlets. In 1901 he was in Switzerland with other political refugees and there joined the staff of the review *Iskra* (Spark) becoming one of the leaders in the revolutionary activities of the refugees who were banded together under the name of the Russian Social Democratic party. This party until the revolution of 1917 was styled the Old (or United) Russian Social Democratic party, but Lenin soon split it into conflicting sections. At the second congress of the party held in London in 1903 a bitter discussion arose over the question of tactics, and ended in a vote which gave a majority (*bolshevists*) for the view advocated by Lenin and the supporters of this view came to be known as 'Bolsheviks' (see BOL-SHEVISM) and those of the minority (*menchevists*) view as 'Mencheviki'.

He returned to St. Petersburg after the failure of the 1905 revolution and formed the Workers' Soviet, his chief lieutenant being Leo Trotsky (q.v.). An abortive attempt at revolution in Moscow caused him to flee to Geneva where he produced the *Proletarian* and came into association with Maxim Gorki. By 1913 he had by pamphlet and news sheet instilled his own views into a growing mass

of workers, and the death of Stolypin gave him an opportunity to issue his paper *Pravda* in St. Petersburg despite repeated suppressions. Disruption within his party at this time caused a division into a Bolshevik (extreme) section and Menshevik (moderate) party. With Bolsheviks he went ruthlessly forward. While in exile in Switzerland he fore-saw the coming collapse in Russia and with a nucleus of workers pursued his plans to meet it. He recognised the First World War only as an opportunity to his schemes and wrote *Imperialism as the Last Stage of Capitalism* (1917).



LENIN IN 1915

When the Russian monarchs fell workers' Soviets and peasants came flocking into the Duma the Russian Government and the magnitude of the problem facing the new government pointed to Lenin as the only leader great enough for such formidable tasks. He was not allowed to return through Germany, however, until April 16 1917. A struggle began with the moderate socialists known as the 'Left' followed the Bolshevik capture of the Moscow and Petrograd Soviets and the routs in July and August. Lenin then reappeared from Finland and became head of a 'council of peoples' commissars. He took up his residence in the palace of the tsar's favourite ballerina but continued without change his ascetic mode of living utilising the building more for his staff than for any indulgence of the amenities. His first decree abolished all private ownership of land and property. Crown and Church property was transferred to the control of the Workers' Soviets. Lenin concluded peace with Germany believing that revolution would quickly follow in that country. Indeed he firmly believed that world revolution was imminent. He was not popular, however, even with his own followers, subordinating everything ruthlessly to state needs in the conviction that the desperate situation could be saved only by discipline and force. During a meeting at

the Kremlin to which he had moved he was seriously wounded by a would-be assassin but recovered to be faced by civil war within the country and a blockade by Britain without as well as threats of invasion by counter-revolutionaries under Kolchak in Siberia and Denikin and Wrangel in the N and S. The tide however turned at last with the enormous help he received from Trotsky his army chief. The counter-revolution was crushed by 1921 and pure Communism was modified by the new economic policy (N.E.P.). For the sake of production private enterprise and profit were allowed on a small scale. Trade treaties were signed with Britain and other capitalist countries.

After four years of struggling against difficulties which would have overwhelmed most men, the terrific strain he had imposed upon his physical resources had its inevitable result and he was attacked by a form of brain disease. He was able however to hand to his successor before he died a unity of purpose on all its frontiers and showing undeniable signs of considerable economic development. Shortly after issuing his famous economic theory he died on Jan 21. It was a striking instance of a man with a fixed goal—the goal of the universal social revolution and towards that chosen goal he marched unflinchingly undisturbed by weariness or intellectual doubt never halting at crime and never moved by the slightest compunction. In all things he was guided by Marxist theory adapted to the needs of modern Russia. Marxist-Leninism as interpreted by Stalin remains the doctrinal foundation for Communism. L's works comprise 10 vols. of which extracts may be found in *Is this Lenin* (2 vols. 1941). A collection of his writings *Избранные произведения* was published in 1930. *Stalin on Lenin's Life and Work* 1924, I. Trotsky *Lenin 1920-1924*, I. Trotsky *Lenin 1925-1929*, I. Trotsky *Lenin 1930-1933*, I. Trotsky *Lenin 1933-1934*, I. Trotsky *Lenin 1934-1935*, I. Trotsky *Lenin 1935-1936*, I. Trotsky *Lenin 1936-1937*, I. Trotsky *Lenin 1937-1938*, I. Trotsky *Lenin 1938-1939*, I. Trotsky *Lenin 1939-1940*, I. Trotsky *Lenin 1940-1941*, I. Trotsky *Lenin 1941-1942*, I. Trotsky *Lenin 1942-1943*, I. Trotsky *Lenin 1943-1944*, I. Trotsky *Lenin 1944-1945*, I. Trotsky *Lenin 1945-1946*, I. Trotsky *Lenin 1946-1947*, I. Trotsky *Lenin 1947-1948*, I. Trotsky *Lenin 1948-1949*, I. Trotsky *Lenin 1949-1950*, I. Trotsky *Lenin 1950-1951*, I. Trotsky *Lenin 1951-1952*, I. Trotsky *Lenin 1952-1953*, I. Trotsky *Lenin 1953-1954*, I. Trotsky *Lenin 1954-1955*, I. Trotsky *Lenin 1955-1956*, I. Trotsky *Lenin 1956-1957*, I. Trotsky *Lenin 1957-1958*, I. Trotsky *Lenin 1958-1959*, I. 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activities of the Swedes made it necessary that some strong centre should be created in the extreme W., and this Peter the Great decided to do. Unfavourable as was the site that he chose, it was the only one possible. There had already been a small fort there, some 5 m. from the mouth of the Neva, built by the Swedes, which had become an important commercial place during the connection of Novgorod with the Hanseatic League. This fort and tn. had been almost entirely destroyed by fire under Alexis Michailovich, and it was but an insignificant vil. when Peter took possession of it. It provided him, however, not only with a strong point of vantage against the Swedes, but also with a place through which intercourse could be established with civilised Europe, an object which he had much at heart. The difficulties he had to overcome were immense, but by indomitable perseverance and a reckless disregard of human life they were all overcome. Out of dismal swamps and bleak morasses arose a city of which it was said a century ago, 'The united magnificence of all the cities of Europe could but equal St. Petersburg.' L. is rich in fine buildings and palaces, many of which, however, have fallen into disrepair. The Imperial Winter Palace was rebuilt in 1839 after having been destroyed by fire two years previously, and was damaged slightly during the 1917 revolution. Considerable damage was done by Ger. bomber planes, especially in 1941 (see Leningrad, Siege). There are a number of museums and art galleries, which have many comparatively recent additions, and numerous splendid churches which are permitted to remain open, although the Orthodox Church has been disestablished by the Bolsheviks. Many of these buildings, however, were either destroyed or severely damaged in the siege of 1941-43.

The public structures, quays, piers, ramparts, etc., are all composed of masses of solid granite. The Neva, as it passes through the city, has a breadth of from 500 to 700 yds. It forms one of the prin. beauties of the city, for its waters are clear as crystal and very deep, so that large ships can moor at the quays which line its banks. L. port, at the mouth of the Neva, is now one of the great world ports. Its total length of quays is 21,000 ft., and the port has been re-equipped with ice-breakers that keep it open from April to Nov. A plan for constructing a 7.5-m.-long underground railway was approved before the outbreak of war in 1939.

Unfortunately the low position of the city renders it liable to inundations whenever a strong wind from the sea causes the riv. to rise much above the average height. L. is not only watered by the Neva, but also by a number of its branches which virtually make the city a collection of small is. The Neva runs first towards the N. and then, turning to the W., sends out towards the N. an arm called the Nevka, which again divides into two branches called the Great and Little Nevka. The main riv. also divides into two branches, the Great Neva, which runs S.W., and the

Little Neva, which runs N.W. Thus the gulf of Kronstadt receives the Neva by four great arms. In addition to these streams the city is intersected by a number of canals, so that a large number of bridges are required. The longest of these, the Irvitsky bridge, is some 2000 ft. in length. The prin. part of L. is built on the l. b. of the Neva. In the centre stood, prior to the Bolshevik rule, the Admiralty, the finest and most imposing of what then constituted the crown buildings, surrounded by the beautiful Alexander Garden. From this central point radiated three long boulevards, rendered imposing by their width. Eastwards runs the Nevsky Prospekt, the city's central thoroughfare, while S. and S.E. respectively stretch the Voznesensky Prospekt and the Gorokhovaya Ulitsa. Other famous palaces of old St. Petersburg were the Marble Palace, the Taurida, presented to Prince Potemkin by Catherine II.; the Antichkov Palace, which was the residence of Emperor Nicholas while Grand Duke; the Old Michailov Palace, later used as a school of engineers; and the New Michailov Palace, one of the finest palaces in Europe, built between 1819 and 1825. Close to the Winter Palace is the Hermitage, built by Catherine II., which contained a costly library and one of the most magnificent collections of paintings in the world, besides other treasures. The two most famous public monuments of old St. Petersburg were the Alexander Column, erected in honour of the Emperor Alexander, and the great equestrian statue of Peter the Great, which stands in the Peter Square. The city also had numerous splendid churches, among which were the magnificent church of St. Isaac of Dalmatia, built 1819-53; the Theolokos of Kazan, St. Nicholas, St. Alexander Nevsky, and St. Peter and Paul. The univ. of L. before the Second World War had eleven faculties, including a workers' faculty, and its students numbered nearly 1000, 68 per cent of whom were workers.

Until 1939 L. was one of the main industrial centres of Russia, but the construction of new plant was discouraged under the second five-year plan and L. has declined in importance. The chief industries were those of cotton, woollen, and clothing manufs., iron founding, machinery, paper making, and printing, tobacco, leather, glass, soap, and chemicals. L. was also a great publishing centre. The pop. of L. by the census of 1939 was 3,191,000.

Considering the severity of the siege of 1941-43 L. is still remarkably like the city that began the Oct. revolution of 1917. Within the twelve months after the end of 1941 its centre had been so restored that it was difficult to believe that it had been in the line of battle, though in the suburbs big scars were still to be seen. Among many old landmarks of bygone days which still remained were the fortress of Peter and Paul, the famous Smolny of Lenin's days, the Krasny Zamok on the Fontanka, former palace of Tsar Paul, and other buildings. A city planning committee had by then made plans for the industrial

future of L. Industry is to be located so as to serve the needs of the people. Some 600,000 inhab. d. of starvation in the siege, many were killed in action, and many left the city. It is proposed to allow the pop. to rise very gradually to its old figure, to site enough industries there to provide them with employment, mostly the old engineering industries, and to spread the pop. over double the area of the old city. The new city centre is an imposing building out in the open fields, bearing scars of the struggle with the Gers. New workers' flats are being built round it and here will be the industrial part of the city. The old part of L. radiates from the beautiful Admiralty building. This is to be the administrative centre for N. Russia.

See —, Haftenberg, *Petersburg in seiner Vergangenheit und Gegenwart*, 1866; S. V. Platonov, *History of Russia*, 1925; and A. Karlgren, *Bolshevist Russia*, 1927.

Leningrad, Siege of (1941-43). From Aug. 21, 1941, in the Second World War, L. was closely besieged by the Gers., and for sixteen months overland communications with the rest of Russia were cut. The siege was begun by Gen. von Leeb with an army of 300,000 riflemen, a div. of motorised infantry, 1000 tanks, and 1000 first-line aircraft. For months L. lay under direct threat of capture. Probably 250,000 Gers., Finns, and soldiers of other satellite nations d. in the approaches to the city; while in L. itself the Russian death-roll from gunfire, hunger, and exposure was very high. The problem of the welfare of 4,000,000 inhab. was complicated by the swelling of the pop. with refugees from overrun regions outside, by the loss of main power supplies through the cutting of the connections with the Svir generating plants, and by the coldest winter (1941-42) known for centuries. The active defence policy of its garrison saved L. Its aircraft bombed the Ger. positions and went far out to attack the Luftwaffe's bases in Finland and Estonia. Its ground forces were always attacking the Ger. defence system; snipers stealing through the broken on outlying hills or on skis over the snow and ice took heavy toll. When navigation was free the Baltic fleet harassed the supply routes from the Hanseatic ports to the Ger. force in Finland; and when the fleet was icebound its guns were lent for the suppression of the Ger. siege artillery batteries. Even in the depth of winter, when medical restoratives were needed to enable workers to get to the factories, the output of arms and ammunition from the great armament works never ceased. In Dec. 1941 transport difficulties and Ger. air raids brought L. to the verge of famine; but this was remedied when the great ice highway across Lake Ladoga was built and Douglas planes flew provisions into the city. At the lowest point of its fortunes L. sent thousands of workers to the front, women taking their places at furnaces and lathe under shellfire in the industrial suburbs. A pioneer movement organised an auxiliary army of children who played a notable part in making life possible in the city. Once the

Lake Ladoga road was open and the Russians had advanced in the Lake Ilmen, Volkhov, and Kalinin sectors, the situation at L. improved and when, at the end of April 1942, the winter had passed, 150,000 volunteers set about an immense spring-cleaning of the city until it earned the reputation of being the cleanest place in all Russia. Trams began to run again. Even social life was not forgotten, many instrumentalists being released from the front to enable them to play in the city's orchestra. The city's defences now became formidable and the Ger. Air Force suffered heavily over the approaches, though the suburbs sustained widespread damage from siege guns in the W. and S.W., some of these being suppressed by the Russian advance towards Peterhof. Famous buildings did not suffer very greatly. Pushkin's house on the Moika was wrecked only in the war. The portals of the Hermitage were damaged, as also was Anichkov bridge, whose bronze horses, however, had been removed for safety. La Fontaine's statue of Peter the Great was slightly damaged. When in the autumn of 1942 the city was completing its preparations for launching an attack a large proportion of the pop. was evacuated by the Lake Ladoga route. The piercing of the blockade was at length effected by a combined operation under Col.-Gen. Goryov, the victor of Moshak-k (q.v.) and commander of the L. garrison from early in 1942, and Gen. Meretzkow, aided by men of the fleet fighting on the ice of Lake Ladoga and the guns of warships and coastal batteries. While the issue was still in some doubt the pressure of heavy Russian tanks which had been brought across the Neva by pontoons, and deadly low-flying Stomox's planes, flung the enemy back to the edge of the forest; while on the Volkhov Gen. Meretzkow forced a passage to Lake Ladoga and split the Ger. belt asunder. From the E. yet another Russian force delivered a powerful series of frontal attacks. The junction of the two armies of Goryov and Meretzkow on Jan. 18, 1943, after a seven-day battle, in which the enemy lost 11,000 men in killed and prisoners, established a corridor 10 m. broad and so relieved the city. See L. Ehrenburg, *Russia at War*, 1943; W. I. D. Allen and P. Muratoff, *The Campaigns of 1911-13*, 1944.

Leninsk-Kuznetsky, tn. of the Novosibirsk Region of the R.S.F.S.R., N.W. of Stalinsk, to which there is a branch of the Trans-Siberian railway. Iron ore, coal, gold and precious stones are found in the neighbourhood. Pop. 81,900.

Lennel, see GOLDSTRAEM.

Lennep, Jacob van (1802-68), Dutch poet and novelist, b. at Amsterdam. He took his doctorate in law at the univ. of Leyden in 1824 and started legal practice in Amsterdam in 1829, becoming procurator-general. He was a member of the Dutch Parliament, 1853-56. His first essay in literature was to pub. a trans. of Byron's *Bride of Abydos* in 1826 and of the *Siege of Corinth* in 1831. A greater influence was, however, that of Sir Walter

Scott, and he is now remembered chiefly for his series of historical novels which displayed excellent narrative power. They include *De Plegzoon, een verhaal* (1835, Eng. trans. *The Adopted Son*, New York, 1847); *De Rook van Dekana* (1836, Eng. trans. *The Rose of Dekana, or the Friesian Heiress*, 1817); *Jacobus's Verklacht op het huis te Teylingen* (1839, Eng. trans. *Jacobus's Lament at the House of Teylingen*, 1810); and *Bernardus Huyck* (1810, Eng. trans. *The Count of Talavera*, 1880). Van L.'s dramatic works were pub. in 3 vols. (Amsterdam, 1852, and his poetical works in 11 vols. (Rotterdam, 1859-62. See life by N. Beets, 1906, and M. F. Lemmen, 1909; also J. ten Brink, *Geschiedenis der Noord-Nederlandsche Letteren in de XIXe Eeuw* (No. iii).

Lennox, Charles Henry Gordon-, see RICHMOND AND GORDON, DUKE OF.

Lennox, Charlotte (nee Ramsay) (1720-1804), Brit. writer, b. in New York. She came to London in 1735, and after a brief period on the stage earned her living by writing. Her chief books are *Life of Harriet Stuart* (1751); *The Female Quixote* (1752); and *Shakspeare Illustrated; or The Novels and Histories on which Plays are founded* (1753-54).

Lennox, anc. Scottish ter. comprising the anc. sheriffdom of Dumbarton, and large portions of the shires of Stirling, Perth, and Renfrew. The earldom of L. was first conferred on Alwin, probably a Celt by descent, about 1175. The title passed in 1173 to his descendant, Sir John Stewart, Lord Darnley. Matthew, second earl of this Stewart line, fell on Flodden Field, and Matthew, fourth earl, married Margaret Douglas, daughter and heir of the earl of Angus and Margaret Tudor, sister of Henry VIII.; Matthew's eldest son, Henry, married Mary Queen of Scots. After the murder of Darnley (1571), Matthew worked for the abdication of Mary, and in 1570, his grandson being recognised as James VI. of Scotland, he was appointed regent. On his death (1571) the title passed to James, who conferred it on his uncle, Charles, the younger brother of Darnley, who left an only daughter, Lady Arabella Stewart. In 1580 James conferred the title on his cousin, Esme Stewart, grandson of the third earl, and in the following year Esme was created duke of L. He was succeeded by his son Ludovic, who was created earl of Richmond (1613), and earl of Newcastle, duke of Richmond (1623) in the Eng. peerage. On his dying without male issue (1624) his titles passed to his brother Esme. On the death of the sixth duke, Charles, the L. dukedom devolved upon Charles II., who bestowed it on his illegitimate son, Charles Lennox (by the duchess of Portsmouth), who sold the lands to the marquess of Montrose in 1702. See *Scots Peerage*, vol. x., and W. Fraser, *The Lennox*, 1874.

Lennox Hills, range in Scotland, include the Campsie Fells, Strathblane Hills, and Kilpatrick Hills, and are situated between Dumbarton and Stirling. They rise to 1894 ft. in the peak of Earl's Seat.

Lennoxtown, vil. of Stirlingshire, Scot-

land, 11 m. N.E. of Glasgow by rail. Halls are made and there are calico-printing, alum and bleach works, and coal-mines. Pop. 2000.

Leno, Dan (1861-1904), stage name of George Galvin, Eng. comedian, b. at Somers Town, London. His parents were travelling entertainers, known as Mr. and Mrs. Wilde, and as a child he was trained as an acrobat and dancer. With his brother he won the world championship in clog-dancing at Leeds in 1880, and after appearing in pantomime at the Oxford and Surrey Theatres, he was engaged for Drury Lane by Sir Augustus Harris. In 1900 he was transferred to the Pavilion Music Hall, and in 1901 performed before the king at Sandringham. See J. H. Wood, *Dan Leno*, 1905.

Lenormand, Henri René (b. 1882), Fr. dramatist, b. May 3 in Paris, son of the composer, René L. He was educated at the Lycée Janson-de-Sailly. His first work was *Les Possédés* (1909), performed at the Théâtre des Arts, and the next *Pauvre* (1911), followed by *Les Rates* (Eng. trans. *Failures*, 1923) and *Le Temps est un songe* (Eng. trans. *Time is a Dream*, 1923), both performed at the Théâtre des Arts. His later plays are *La Simonne* (1920); *La Manquer de rêves* (1922, a modern reproduction of *Oedipus Rex*); *L'Homme et ses fantômes* (1924); *Les Trois Chambres* (1931); and *Crepuscule du théâtre* (1935). See H. Daniel-Rops, *Sur le Théâtre de H.-R. Lenormand*, 1926.

Lenormant, François (1837-83), fr. archaeologist, b. in Paris. He won the prize in numismatics at the Académie des Inscriptions with his *Classification des monnaies des Lagides* (1856), and was appointed sub-librarian (1862). After travelling in Greece he accepted the professorship of archaeology at the Bibliothèque Nationale (1874-83). His chief works are *Les Antiquités de la Troade* (1876) and *Les Origines de l'histoire d'après la Bible* (1880-84). From cuneiform inscriptions he deduced the existence of a non-Semitic tongue which was later known as Accadian. Other works: *Manuel d'histoire ancienne des Peuples* (1868-69, 1881); *Lettres assyriologiques* (1871-79); *Les Premières Civilisations* (1871); *Les Sciences occultes en Asie* (1874-75); *La Monnaie dans l'antiquité* (1878-79); and *Monnaies et médailles* (1883).

Le Nôtre, Andre (1613-1700), Fr. landscape gardener. Louis XIV., who heard of his skill, gave him a commission to lay out the gardens of Versailles, the Trianon, the terrace of St. Germain, and the gardens of Fontainebleau, St. Cloud, and Chantilly. He was also the designer of St. James's Park and Kensington Gardens in England, and also of Greenwich Park. In addition to these he visited Rome and laid out the gardens of the Quirinal and Vatican.

Lens, tn. in the dept. of Pas-de-Calais, Franco, 9 m. N.N.E. of Arras. It possesses a rich coal-field, and is also engaged in sugar-refining and other industries. Occupied by the Gers. early in the First World War. its recapture was an aim of

the Allies in the operations known as the battle of Loos (q.v.), Sept. 1914, but it was not taken. Its importance as a railway junction and as a coal-mining centre enhanced its strategic value, and it was the prin. Brit. objective in the battle of Arras (q.v.) in April 1917, but again it did not fall. L. was evacuated by the Gers. Sept. 4, 1918. The tn. suffered considerable damage in the Second World War. Pop. 40,300.

Lens, in optics, a portion of a refracting medium bounded by two curved surfaces, or by one plane surface and one curved surface. Ls. are usually made of glass, their surfaces being usually portions of spheres, and for most practical purposes having a small thickness in proportion to the radius of curvature. They may be divided into two classes, convex or converging L., and concave or diverging L. The former are thicker in the centre than at the edges, and the latter thinnest at the centre. Light is refracted (i.e. changes its direction) when it passes from air to glass, or from glass to air, and Ls. are important because the refraction at their two surfaces can be made to alter the directions of the incident light rays in such a way that whole groups of rays pass onwards towards a single point, or in directions away from a single point. If, for example, rays from a point on a distant object fall on the convex L. of a camera, they are so refracted that all reach one point on the photographic plate or film placed behind the L. and at a suitable distance from it, and they are said to form an *image* of the object point. From each point on the object a group of rays is in this way focused on the plate at an appropriate point, so that the totality of rays passing through the L. produces a picture or image of the object upon the plate. In this case the rays travel to the image, and the image is said to be a *real* one. Similarly the rays from a point on an object fall on the L. of a pair of spectacles, and are refracted in such a way that they pass to the eye as though they had come from a point other than that where they originated; that is, they merely appear to come from an image point, and the image is said to be *virtual*. Whether the image produced by a convex L. is real or virtual depends upon the distance of the object and such characteristics of the L. as the curvature of its faces and the nature of the glass of which it is made; concave Ls. however, produce only virtual images of real objects. The sizes and positions of the images formed by Ls. depend upon the sizes and positions of the objects, and upon various characteristics of the Ls. See A. Cox, *Photographic Optics*, 1943, and B. K. Johnson, *Practical Optics*, 1945.

Lent (O.E. *lencetan*, spring; M.E. *lenten*, *lente*). In the Christian Church, the period of fasting before Easter. In the time of Irenaeus a rigid fast was observed by some Christians for forty hours before Easter morning. In Alexandria, during the third century, Christians fasted throughout Holy Week, and by the fourth century the period had extended to about forty days. In the eighth or ninth century it was determined that the fast should begin on

Ash Wednesday, between which and Easter Sunday are forty days, excluding Sundays, on which fast is not observed. Hence in Rome the Sundays in L. were, and are, called in *Quadragesima*, i.e. within the Forty Days, whence Fr. *Carême*, etc. The fourth Sunday in L. used to be known as 'Mothering Sunday,' for on that day young servant maids were allowed a holiday to visit their mothers, and usually took with them a rich *simnel* cake. The fifth week is called *Passion Week*; the sixth, beginning with Palm Sunday, is *Holy Week*.

Lenthall, William (1591-1662), Eng. politician, b. at Henley-on-Thames, son of an Oxfordshire landowner. Called to the Bar in 1616, he entered the Short Parliament as member for Woodstock in 1640, and in the following year the king made him Speaker, a position he retained until 1653. His behaviour when Charles I. ordered him to disclose the whereabouts of the five members he wanted to arrest is historic. He became master of the Rolls in 1643, and was Speaker again in 1659 when the Rump was recalled. Though favouring the Restoration he was exempted from pardon in 1660 but was unmolested and d. at his residence at Burford.

Lentils, seeds of a small branching plant with pale blue flowers (*Erum lens*). Their shape has given the name to the glass lens. There are numerous varieties and all are of high food value. The plant is hardy in Great Britain, but is rarely cultivated. In all S. parts of Europe, and in Egypt and India, the crop is an important one.

Lentini, tn. in the prov. of Syracuse, Sicily, 1½ m. S.E. of Lake L. Its inhab. are chiefly engaged in the manu. of earthenware. Pop. 17,000.

Lentulus, patrician family of the Cornelia gens, of which the most prominent persons were: (1) P. Cornelius L. Sura, the man of chief note in Catiline's conspiracy. He was successively quaestor, praetor, and consul int. in 70 B.C., was expelled from the senate, with sixty others, for infamous life and manners. It was this, probably, that led him to join Catiline. From his distinguished birth and rank, he calculated on becoming chief of the conspiracy, and in order to gain power and recover his place in the senate he became praetor again in 63 B.C. When Catiline left for Etruria L. was left as leader of the home conspirators, and his irresolution probably saved the city from being burned. L. was deposed from the praetorship, and was strangled in the Capitoline prison. (2) P. Cornelius L. Spinther was successively curule, aedile, praetor, and consul over the period 63-57 B.C. In his consulship he moved for the immediate recall of Cicero, and afterwards received Cilicia as his prov. On the outbreak of the civil war in 49 B.C. he joined the Pompeian party.

Lenz, Jakob Michael Reinhold (1751-1792), Ger. poet, b. at Sesswegen, Livonia, is a typical representative of the *Sturm und Drang* period. His earliest efforts at composition were sacred songs in the

style of Klopstock. After studying theology at Königsberg—his father was a vil. pastor—he migrated to Strasburg, joined the literary coterie of Salzmann (1749-1821), and gained the friendship of Goethe. His passionate lyrics, *Die Liebe auf dem Lande*, were inspired by Friederike Brion, whom Goethe also loved. Insanely overtook him in 1777. His romantic comedies *Der Hofmeister* (1774) and *Die Soldaten* (1776), etc., show a marked deficiency in restraint. See H. Kindermann, *Lenz und die deutsche Romantik*, 1925.

Leo, or **The Lion**, one of the twelve zodiacal constellations or 'signs,' of which it is the fifth, the sun entering it about July 22. It is surrounded by Ursa Major, Leo Minor, Cancer, Hydra, Sextans, Virgo, and Coma Berenices. The constellation can be easily found by drawing a line through the Pole Star, and the third star of the Plough (γ Ursa Majoris). This line intersects ι , at the bright star Deneb (α Leonis). The two brightest objects in the constellation are Regulus (α Leonis) (first magnitude) at the bottom of the well-known 'sickle,' and the blue star Deneb (magnitude 2.2).

Leo, name of thirteen popes.

Leo I. (440-61), styled the *Great*, probably a Rom. by birth, first definitely heard of as a deacon possessing great influence in 429, and while in Gaul on a diplomatic mission he was chosen to succeed Sixtus III. He was foremost in checking the heresies of Manichæism, Priscillianism, and Nestorianism, and in establishing the prime authority of the bishop of Rome and the authority of the law of its apostolic see. He formulated against the Monophysite, Eutyches, the doctrine of the union of the human and divine persons in one Jesus Christ, in a letter, known as the *Tome of St. Leo*, intended for the 'robber' synod of Ephesus but adopted at the council of Chalcedon (451). L. turned back the Huns under Attila (452) and saved the plundering of the auct. basilicas of Rome from the Vandals under Genseric in 455. He was succeeded by Hilarius.

Leo II. (882-83), a Sicilian, succeeded Agatho I. He upheld the rights of the see of Rome against the encroachments of Ravenna. He was succeeded by Benedict II.

Leo III. (795-816), a Rom. by birth, succeeded Adrian I., and sent the keys of St. Peter's tomb to Charlemagne. After a murderous attack in 799 he sought protection from the king of the Franks, who came to Rome in 800. In public synod before Charlemagne L. repudiated on oath the charges against him. On Christmas Day 800 he crowned Charlemagne emperor of the W.

Leo IV. (817-55), a Rom. priest, succeeded Sergius II. He fortified Rome, defeated the Saracens at the mouth of the Tiber, built the Leonine city, which included the Vatican, and crowned Alfred the Great when his father Ethelwulf took him in 853 to Rome as a pilgrim.

Leo V. (903), a Benedictine monk, succeeded Benedict IV., but was deposed by his chaplain, Christopher. The records of

the tenth century are incomplete, and make no mention of his subsequent hist.

Leo VI. became pope in 928 in succession to John X., and is stated by some to have been murdered by the notorious Rom. lady, Marozia, who is also said to have murdered John X. (q.v.).

Leo VII. (937-39), negotiated peace terms between Hugo, king of Italy, and Alberto II., duke of Rome, and son of Marozia. He had the reputation of a zealous ecclesiastic.

Leo VIII., the name of an anti-pope (c. 964).

Leo IX. (1049-51), Alsatian; his name was Count Bruno von Egisheim, and he belonged to a noble family related to the Emperor Conrad. In 1026 he was bishop of Toul and was elected to succeed Damasus II. at Worms, a choice confirmed in Rome, whither he journeyed as a pilgrim with Hildebrand, afterwards Gregory VII. In the synod of 1049 he renewed the rule of celibacy of the clergy which, with his suppression of simony, marked his reforming zeal. He held many synods and travelled much. He was crushingly defeated by the Normans near Civitella in 1053, and was a captive at Benevento. He was succeeded by Victor II.

Leo X. (1513-21) was Giovanni, son of Lorenzo de' Medici, the Magnificent, b. at Florence in 1475. Educated by the first scholars of the new learning, he was made a cardinal when only fourteen, though only fully admitted to the sacred college in 1492. He retired to Florence at the election of Alexander VI. till the expulsion of the Medici from Florence. On the restoration he, as head of the family, governed the state till his election to the papacy on the death of Julius II. The first part of his pontificate was taken up by negotiations with the Emperor Maximilian, Ferdinand of Spain, and Henry VIII. of England, for an alliance against France and Venice, and for restoring peace to Europe for the sake of a crusade against the threatening advance of the Turks. His grants of indulgences helped to arouse the spirit of revolt against the abuses of the Church which culminated in the Reformation; L.'s failure in face of the revolt in Germany and the N. was mainly due to his absorption in pressing forward the temporal claims of the papacy in Italy, and in diplomatic intrigues for these ends, which were subservient to his lifelong policy of increasing the power of his family, the Medici. He d. suddenly after the news of the success of his plans.

Leo XI. (1605), Alessandro de' Medici, only reigned a month, and was succeeded by Paul V.

Leo XII. (1823-29), b. near Spoleto in 1760, was secretary to Pius VI., and was engaged in diplomatic missions in Europe and with Napoleon. Cardinal-priest in 1816, and cardinal-bishop 1820, he was elected pope on the death of Pius VII., being expected to live only a short time. He was a distinct reactionary, suppressing all forms of political movement and societies, and establishing an elaborate

system of spies. He was succeeded by Pius VIII.

Leo XIII. (1878-1903). Gioacchino Pecci, b. at Carpineto in 1810, of a Sienese family, his father having served in the Napoleonic armies. He was educated by the priests at Viterbo and at Rome, entered the Accademia dei Nobili Ecclesiastici in 1832, and was ordained priest in 1837. He was made bishop in 1843, and was engaged in diplomacy in Brussels till 1846, when he was appointed archbishop of Perugia. Here he remained, working assiduously for social and educational reform and the restoration of churches. In 1853 he was made a cardinal by Pius IX. He strenuously opposed the loss of the temporal power and the other effects upon the papacy of the unification of Italy. In 1877 he became Cardinal Cicerone, and was elected pope in 1878 by a large majority of votes, possibly in the expectation of a short papacy in view of his age. He reorganised the curia on strictly economic lines, enforced a stricter theological training in accordance with the doctrines of St. Thomas Aquinas, especially in his encyclical *Aeterni Patris*, threw open the Vatican library and archives to scholars, and encouraged the study of church hist. His encyclical *Rerum Novarum* (1891), dealing with the condition of the industrial classes, was considered to be socialistic in tendency. His commission to inquire into the validity of Anglican orders led to their definite and final condemnation from the Rom. Catholic point of view in 1896. Faced at his entry to the papacy with complete isolation from the European powers, L. worked to establish friendly relations with all except the Crown of Italy, which made him, like Pius IX., a 'prisoner of the Vatican.' His plan to bring the Fr. Catholics to support the republic can hardly be said to have succeeded. He d. a few months after the celebration of his jubilee.

See F. Hayward, *History of the Popes*, 1931.

Leo I., Flavius (c. 400-474), Emperor of Constantinople, b. in Thrace, was crowned by Anatolius on the death of Emperor Marcianus in 457. He adopted stern measures against the Eutychians, and defeated the Huns in Daemia. While on an expedition to recover part of Africa, his fleet was destroyed by the Vandals. Towards the end of his reign he suppressed a rising of Goths, and, on his deathbed, left his crown to his four-year-old grandson, Leo II., who d. after a nominal reign of ten months.

Leo III., the Isaurian (c. 650-710), emperor of the E., b. in the Syrian prov. of Comagene. In 717, refusing to acknowledge the usurper Theodosius III., he was elected emperor by the army, and during the first year of his reign defeated the Saracens, who had laid siege to Constantinople. He passed legislative reforms on religious matters, and by issuing edicts against the image-worshippers gave rise to the great iconoclast controversy. As the papal power persistently opposed him, he seized all the revenue of the Rom.

see he could lay hands on and attempted to transfer S. Italy, Greece, and Macedonia from the lat. patriarchate to that of Constantinople, with the result that the prov. of Ravenna separated from the empire. See E. Gibbon, *Decline and Fall* (ed. by Barry), 1896.

Leo V., Flavius, surnamed the *Armenian*, served as a commander under Nicephorus, but was exiled for treachery in 811. Recalled and made commander of the E. army by Michael I., Byzantine emperor, he went with the latter on an expedition against the Bulgarians. During a battle near Adrianople the army became disaffected, leaving Michael to defeat. L. was then crowned at Constantinople and in the succeeding two years subjected the Bulgarians to two decisive defeats. His persecution of image worshippers, however, alienated his nearest friends, and he was assassinated by the friends of Michael the Stammerer, who was raised to the throne as Michael II.

Leo VI., surnamed Sapiens and Philosopher, succeeded his father Basil I. in 886 as Byzantine emperor. His earliest act was to depose Photius (q.v.), patriarch of Constantinople. Most of his reign was occupied in minor wars against barbarians and conflict with churchmen. The origin of his surname is unknown, and Gibbon suggests that it was given only because he was less ignorant than most of his contemporaries in matters of Church and State and also because his education had been directed by the learned Photius. He wrote a work on military tactics entitled *De Ispandis Ballico* (trans. by Sir John Cooke in 1554 and sev. times since); also a number of *Oracula* in iambics and *On theos* on theological topics.

Leo Africanus (Alhassan Ibn Mohammed Alwarzani), Berber traveller of the fifteenth century. He travelled extensively in N. and Central Africa and Asia Minor, and while returning from Egypt was captured, set free by pirates and taken to Rome, where he was converted to Christianity. His account of his journeys, written in It., was pub. in 1550 by Ramusio. Other works include poems, lives of Arab philosophers and physicians, and a Sp.-Arab. dictionary.

Leo Allatius, see ALLATIUS, LEO.

Leoben, tn. in the prov. of Styria, Austria 26 m. N.W. of Graz, with iron-mine close by. Here in 1797 was signed a peace between France and Austria. Pop. 11,100.

Leobschütz, see GILBEY, LEON.

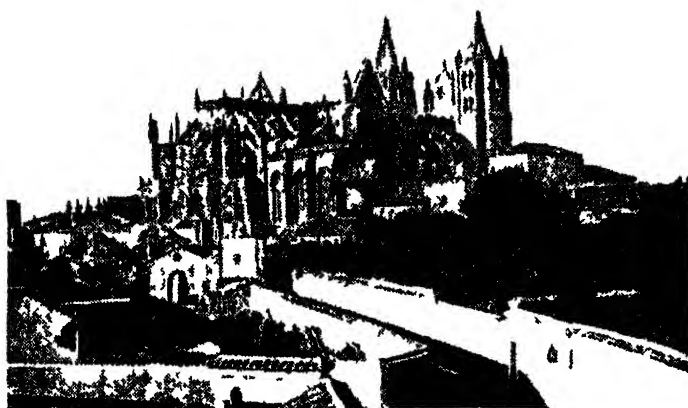
Leochares (fl. 350 B.C.), eminent Gk. sculptor, was a pupil of Scopas, with whom he worked on the Mausoleum. With Lysippus he executed a group in bronze representing Alexander at a lion hunt. He also made busts of Alexander, statues of Zeus, Ares, and of the family of Philip of Macedonia. All his works are lost, but the statuette in the Vatican of 'Gaiymede carried away by an Eagle' is probably a copy of his work.

Leo, Leonardo (1694-1744), It. musical composer, b. near Brindisi. While studying at Naples in 1712 his sacred drama,

L'Infedella abbattuta, was performed by his fellow students. Among his works are *Pisistrato* (an opera) (1712), *La Alpeca scoperta* (1723), and *Amor vuol sofferenza* (1729) (comic operas), *Karnace* (1737) and *L'Olimpiade* (1737). Some of his music is still played and sung.

Leominster: 1 Bor and mkt tn of Herefordshire, England, situated at the confluence of the Lugg and two other small rivers. It is 12 m from Hereford and 157 m from London. It has regular and wide streets and has some fine old timbered houses. The magnificent church has a Norman nave and fine examples of window tracery. It was restored in 1866.

vines, corn and fruit grow in plenty. There is some mining of coal and iron but agriculture and sheep raising are the chief sources of wealth. With Salamanca, Valladolid, Palencia, and Zamora, it constituted a medieval kingdom from 913. Area 5936 sq m. Pop. 29,800. 2 Cap of the prov. of L., Spain. It is perched on a hill (2631 ft) and is made up of two distinct quarters, the old or eccles. and the modern or industrial. Its fine Gothic cathedral dates back to 1199. There are iron foundries and manufs. of machinery, etc. Pop. 20,000. 3 Locality the cap. of Nicaragua. Central America. 50 m N.W. of Managua the



LEON CATHEDRAL

and enlarged by the addition of the S. nave in 1879. The tn. hall was built in 1855. Formerly a centre of the wool trade, with certain mercantile guilds, L. now trades chiefly in cider and hops and other agrie. produce. The tn. originated in a monastery founded by the Mercian king Morwald, who had a castle near by, where a fortress stood till 1055 when it was destroyed by the Welsh. The tn. charter of incorporation was granted by Queen Mary Tudor. L. was represented by members of Parliament as early as 1295, but in 1865 its representation was reduced to one member. Pop. 6000. 2 Tn. in W. Worcester co., Massachusetts, U.S.A., 40 m W.N.W. of Boston. Pop. 22,000.

Leon: 1. Prov. of N.W. Spain. The Cantabrian Mts. bound it to N and W, and in this direction the prov. itself is highland, whilst the plains of the S. and E. are part of the Castilian plateau. The Montañas de L. separate the basins of the Miño and the Douro, and the upper Sil waters the valley, El Bierzo, in which

presently sheep-raising and the manuf. of textile goods and boots and shoes are the staple industries. The ornate Romanesque cathedral (completed in 1774) and the many handsome public buildings lend dignity to the tn. Pop. 45,900. 4. Tn. in Guinajuato prov., Mexico. 30 m. W. by N. of Guanajuato. Wheat and other cereals are grown in the area and the tn. has manufs. of cotton and woollen goods, pottery, and leather goods. Pop. 74,300.

Leon, Fray Louis de, see PONCE DE LEON.

Leonard, Thomas Arthur (1864-1948). Long pioneer of open air holidays, b. at Stoke Newington. Studied in Germany and at the theological college in Nottingham, afterwards becoming a minister of the Congregational Church in Lancashire. His observation of the futile use which the industrial workers of the N. made of their leisure revealed to him what might come from an enlightened democracy with cultural and ethical, if not indeed spiritual promptings, overriding barriers of class,

creed, and colour, became with him, some felt, almost an obsession. He was, however, encouraged in his ideas by his friends, and it was not long before he found opportunity of putting his theories into practice through the medium of holidays. So in the early nineties the Co-operative Holidays Association, and in 1913 the Holiday Fellowship (q.v.), were founded. He was the first general secretary of each of these bodies, a period of office which covered over thirty years of his life. There came later the Youth Hostels Association, the Greyhound Fellowship, and International Tramping Tours, in the starting of which he played a prominent part. He was awarded the O.B.E. in 1935.

Leonardo da Vinci (1452-1519). It. painter, sculptor, engineer, and architect, b. at Vinci, near Empoli. His father was Ser Piero da Vinci, a Florentine lawyer, and his mother (Catarina) was of humble birth and unmarried. The child was brought up in his father's household, and from his earliest years showed the greatest promise for the future. Among his early pursuits were music, modelling, and drawing. His father placed him under the tuition of Andrea del Verrocchio, and in his studio L. worked with Sandro Botticelli and Pietro Perugino and other less famous men, such as Lorenzo di Credi. If tradition is to be believed, he was soon able to teach his master. Verrocchio allowed his pupil, then about eighteen, to paint a kneeling angel in the picture of 'Christ's Baptism,' and the result was such that Verrocchio knew that he could teach L. nothing more. The picture is now in the Academy at Florence. In 1472 he was enrolled in the painter's guild at Florence. Somewhere about 1477 Lorenzo the Magnificent appears to have taken him into special favour, and under his protection L. worked independently until 1483. During this time he was filled with projects of all kinds of architecture, hydraulics, mechanics, and engineering, also studying and observing every branch of science.

His art was not the reviving of lost glories, but the finding of fresh revelations in living and often obscure things. Thus his picture on a wooden shield, when he was quite young, cost him the minute study of insects and reptiles from which he created a dragon which terrified and delighted all who beheld it. So later his picture of the 'Medusa' was exceedingly terrible, yet very beautiful, depicting loathsome things blended with a great and tragic loveliness. From Florence he went to Milan, about 1483, and here, under the protection of Ludovico Sforza, he commenced various works, among them the great monument to Francesco Sforza and the world-famous picture of the 'Last Supper,' in the refectory of the convent church of S. Maria delle Grazie. This masterpiece has been the victim of many experiments; the original work suffered from the damp wall on which it was painted, the picture became blistered and mildewed, and after many years Cavaliere Cavenaghi restored as far as it possible the wonderful gift to posterity left

by L. From Milan he went to Venice, and while commencing various pictures spent half his time in gigantic plans of engineering work. In 1502 he travelled as chief engineer to Cesar Borgia, mapping out the country and planning and arranging canals, harbours, and various restorations, but in 1503 he was back again in Florence. His next work was the decoration of the council hall of the Signory; Michelangelo was also commissioned to produce a battle scene on another wall of the same apartment. L.'s cartoon was finished in two years and was exhibited with that of Michelangelo. The violent action and extraordinary vitality of both these great works moved the whole of Florence to passionate admiration. Unfortunately L.'s work was destroyed by an experiment of his own. Raphael, then only nineteen, came to watch these two at work. The portrait of Mona Lisa (or 'La Gioconda'), the wife of Francesco Zanobi di Giocondo, was finished in 1504; that mysterious, smiling picture was perhaps his masterpiece—a work of rare suggestion and subtle elusiveness, such as L. loved. Francis I. bought it later for 4000 golden florins, and it was placed in the Louvre, from which it was mysteriously stolen in 1912, but was later recovered and returned.

In 1506 L. returned to Milan and later accompanied Francis I. back to France. The last two and a half years of his life were spent at the castle of Cloux, near Amboise, which had been presented to him. Only a few of his works have survived; many were begun and never finished. Among his surviving works are the two pictures of 'Our Lady of the Rocks' in the Louvre and the National Gallery, the latter probably helped out by his pupil Ambrogio; 'St. Anne' and 'John the Baptist,' now in the Louvre, a 'Virgin and Child' recently stolen from the Schoeffmann collection in Munich, and sev. studies and drawings at Christ Church, Oxford, Windsor, and elsewhere. A wax bust of 'Flora' was discovered and attributed to L. in 1909 and bought as such by the Kaiser Friedrich Museum in Berlin. It is, however, generally assumed that it is by H. Cockle Lucas, and dates from 1846. See E. Macurdy, *Leonardo da Vinci*, 1907; W. von Seidlitz, *Leonardo da Vinci*, 1909; J. Thilly, *Leonardo da Vinci: the Florentine Years of Leonardo and Verrocchio*, 1913; D. Merejkowski, *Romance of Leonardo da Vinci*, 1913; A. J. Anderson, *Leonardo da Vinci: the Admirable Painter*, 1915; and R. A. Taylor, *Leonardo the Florentine: a Study in Personality*, 1927; also life by Antonina Vallentin, 1939.

Leonardo of Pisa (Leonardus Fibonacci, or Pisanus), It. mathematician who flourished in the thirteenth century. His *Liber abaci* attracted the attention of the Emperor Frederick II., to whose court he was admitted. His other works are *De practica geometriae* (1220) and *Liber quadratorum* (1225).

Leoncavallo, Ruggero (1858-1919), It. musical composer, b. at Naples. His best known work is his opera *I Pagliacci* (1892), other of his works being *Chatterton* (1896)

and *La Bohème*, which last-named, performed in Venice in 1897, suffered by comparison with Puccini's more famous opera of the same title, though some prefer it to the latter (Scholtes).

Leonforte, tn. in the prov. of Catania, Sicily, 45 m. N.W. of the tn. of Catania. It trades in cereals, oil, and wine. Its churches suffered in the invasion of Sicily in 1943, but architecturally they are not of great importance. Pop. 24,400.

Leonidas (c. 489-480 B.C.), king of Sparta, in succession to his half-brother Cleomenes. In 480 he marched with his troops against the invading army of Xerxes, king of Persia, and posted his men, numbering 5300, by the narrow pass of Thermopylae. The Persians vainly attempted to force a way through the pass; they were driven back by L. and his gallant band with great slaughter. At length the Mallian, Ephialtes, turned traitor and showed the Persians a track to the rear of the Spartan army. When L. learned that the Persians were crossing the mt. he dismissed all the other Greeks except the Thespians and Thebans, declaring that he and the Spartans must needs remain in the post if they had been sent to guard. Without waiting for the Persians to attack in the rear he advanced from the pass and charged the enemy masses with his handful of troops. In the hopeless battle which resulted L. was overcome and fell in the fight, his head being afterwards cut off and his body crucified.

Leonid Meteors, see METEORS.

Leonine Verses, irregular forms of verse in which the two syllables of the foot immediately preceding the caesura are made to rhyme with the two final syllables of the line. Examples may be found in Ovid and other Rom. poets, e.g. 'Diluitur posito senior hora meo' (*Heroides*, xix., line 14); but they became popular in the Middle Ages through the influence of the minstrels, who in the Lat. verses sacrificed quantity to accentuation. This form has been used in sev. Eng. poems, and with notable success in Shelley's 'Cloud'—'I am the daughter of the earth and water.'

Leonnatus, Macedonian, served in the bodyguard of King Philip, and afterwards became a distinguished general in the army of Alexander the Great, Philip's son and successor. Alexander, remembering how two years previously Leonnatus and Peucestes had saved his life in battle, gave the former a golden crown at Susa in 325 B.C. On his master's death (323) Leonnatus became satrap of Lower Phrygia. He d. fighting whilst on his way to Antipater, his friend, who was shut up in Lamlia, Thessaly.

Leontini, see LENTINI.

Leontius (fl. sixth century), theological writer who was b. at Byzantium, and became a monk of the monastery of St. Saba, Jerusalem. He wrote *Contra Nestorianos*, *Contra Severum*, and other polemical treatises. See life by J. P. Junglas (1908).

Leopard (*Felis pardus*), fierce blood-thirsty carnivore found throughout the

African continent and S. Asia, though its numbers are rapidly diminishing. Its colour is pale fawn to rufous buff, and the coat is covered with large rosette-shaped spots. It varies in length from 3½ to 4½ ft., and is smaller than the lion or tiger, to which it is closely allied, though it differs from them in climbing trees. The black L. of Java was formerly regarded as a separate species, but is now agreed to be a case of melanism. The L. seems to kill for the love of slaughter; though rarely attacking man unless provoked, it may attack children. For the snow L. see Ounce. The clouded L. is found in the E. Indies, Malaya, and India; it is about 6 ft. long, feeds on small birds and mammals, and lives in trees.



LEOPARD

Leopard, Hunting, see CHEETAH.

Leopardi, Giacomo, Count (1798-1837). It. poet, b. at Recanati, of a poor but noble family. He devoted his early years to an unaided study of the classics, with remarkable success. Dissatisfied with his home life, he went to Rome in 1822, hoping to find a more congenial environment, but he suffered an intense disappointment; and in spite of the friendship formed there with Bunsen and Niebuhr, he returned in the following year to Recanati. Here he remained for ten years, except for short holidays at Florence, Pisa, Milan, and Bologna; at the last-named tn. his brilliant classical scholarship earned for him a commission to edit Cicero and Petronius (1825). The last four years of his life (1833-37) were passed at Naples. L. presents a most fascinating study in psychology and temperament; he is akin in various ways to Heine and d'Annunzio. A sensitive soul, capable of idealism, but embittered by disillusionment and a martyr to ill health, loneliness, and privation, he stands out as the poet of despair; the growing pessimism of his mind is to be clearly traced in his works. His despondency finds its most poetic expression in his *Bruto Minore* (1824); in 1827 appeared his *Operette Morali*, for the most part a series of

imaginary dialogues, which have brought him the same high degree of recognition as a master of prose that his *Idilli* and *Canzoni* have brought him as a poet; whilst his *Epistolario* in particular is one of the most pathetically beautiful works ever penned. As a masterly genius of literary expression he stands in the front rank. It. eds. of his works are by Ranieri (6 vols.) (1845) and De Robertis (1937-38). The chief Eng. trans. are: (prose dialogues) C. Edwardes (1882), P. Maxwell (1905), and J. Thomson (1905); and (poems) - Townsend (1888), F. H. Cliffe (1903), and Sir T. Martin (1904). See studies by F. De Sanctis, 1888, 1920; P. Hazard, 1913; G. A. Levi, 1931; and A. Tigher, 1940.

Leopard's Bane, see DORONICH.

Leopold I. (1640-1705), Holy Rom. emperor, son of Ferdinand III, became king of Hungary (1655), king of Bohemia (1656), and emperor (1658). During his long reign he was engaged in many wars - with Sweden (1660); with the Turks, who, being defeated by Montecuccoli at St. Gothard (1664), agreed to the treaty of Vasvár (1664); with the Protestants of Hungary, whom he suppressed with the aid of John Sobieski, king of Poland, and defeated at Mohacz (1687) and Zenta (1697). He was engaged in three wars with Louis XIV. of France, and towards the close of his reign, L., on the death of King Charles II. (1700), claimed the Spanish throne for his second son, the Archduke Charles, thus beginning the War of the Sp. Succession. See life by R. Baumstark, 1873.

Leopold II. (1747-92), Holy Rom. emperor, son of Francis I. and Maria Theresa, b. at Vienna, became grand-duke of Tuscany in 1765. He was chosen emperor in 1790, on succeeding to the Austrian hereditary dominions at the death of his brother, Joseph II. He managed to re-establish order in Belgium and to make an alliance with England, but was chiefly preoccupied with the affairs of France, where the life of his sister, Marie Antoinette, was in danger. In 1792 he concluded the treaty of Pillnitz with Prussia for the restoration of Louis XVI. of France.

Leopold I., George Christian Frederick (1790-1865), king of the Belgians, was the son of Francis, duke of Saxe-Coburg-Saalfeld, and uncle to Queen Victoria. In 1813 he became cavalry general under the Russian emperor, Alexander, fought bravely in the battles of Leipzig and Lützen (1813-14), and afterwards accompanied the allied sovereigns to Paris. The death of his first wife, Charlotte Augusta, daughter of George IV., and her-presumptive to the Eng. crown, after one year of married life (1817), was a great blow to him. In 1831 he became king of the Belgians, which people had just achieved their independence of Holland, having already declined the sovereign power of Greece, and proved a wise and capable ruler. Queen Victoria received much advice from him, and his experience gave him much influence in Europe. See J. J. Thonissen, *La Belgique sous le règne*

de Léopold I^{er}, 1862; T. Juste, *Léopold I^{er}*, 1868; and L. de Lichtervelde, *Léopold I^{er} et la formation de la Belgique contemporaine*, 1929.

Leopold II., Louis Philippe Marie Victor (1835-1909), king of the Belgians, was the son of Leopold I. From 1816 to 1865, the year of his accession, he served in the army. In 1853 he married Marie Henriette (d. 1902), daughter of the Archduke Joseph of Austria. Before his father's death he travelled a great deal in the E. and in N. Africa. As a king he will be remembered for the major part he played in the events which led finally to the annexation of the Congo Free State in 1908. Feeling the need of an overseas expansion for his little country, he formed the Association Internationale Africaine (1876), and proceeded to exploit the almost unexplored regions of the Congo. In view of the serious strictures which had been passed in various quarters, L. himself in 1904 appointed a commission of inquiry into the administration of the Congo Free State. The pub. of the commission's report (Oct. 30, 1905) aroused deep and painful interest, more especially as the composition of the commission had seemed to guarantee that its members would look upon the administration of the Congo with friendly eyes and that her interests would not suffer from prejudice (introduction to Eng. trans. of the report). Much resentment was aroused too in Catholic missions on account of the trenchant criticism of their work in the Congo. The hist. of the foundation of the Congo Free State through the activities of L. II. when still duke of Brabant, from 1878-84, is given in Sir H. M. Stanley's *The Congo and the Founding of its Free State* (1885), which contains a full account of Stanley's explorations, made under a commission from L. II., who contributed £50,000 towards the expenses. In Belgium to-day interest in the Congo no doubt arises from a twofold source: the public is widely concerned as shareholder in Congolese enterprises; but 'there exists perhaps a sentiment of even greater force in the general determination that the present-day rule of the colony should be such as to present the strongest possible contrast to the history of the Free State under Leopold II.' (Lord Hailey, *An African Surrender* 1938).

Leopold III. (b. 1901), king of the Belgians, son of Albert, king of the Belgians (q.v.), whom he succeeded Feb. 17, 1934. Was educated at Eton College and Ghent Univ. and entered the Belgian Army. He married (Nov. 10, 1926) Princess Astrid of Sweden, who was killed (Aug. 29, 1935) when a motor-car, driven by L. himself, crashed in Switzerland, and has issue two sons, the heir apparent Prince Baudouin, duke of Brabant (b. Sept. 7, 1930), and Prince Albert (b. June 6, 1934), and a daughter, Princess Josephine Charlotte (b. Oct. 11, 1927). On Sept. 11, 1941, L. married Mile Mary Lillian Baels, daughter of an ex-minister of agriculture. L. stated that his wife renounced the title of queen and was to be known as Princess de Réthy. Children

of this marriage have no claim to the throne (his son Alexander Emmanuel Marie Leopold was born on July 18 1942). On Sept. 1940 Belgium reaffirmed its strict neutrality following the German invasion of Poland and two months later L. in the hope of resisting the tide of events consistently with the queen of Holland made an offer of mediation but the hope expressed of an equitable peace was vain. On May 10 1940 the Germans launched an attack on Belgian fields



LEOPOLD III (1937)

and communications and L. took command of the Belgian Army having appealed to the Allies for military aid. On May 8 however despite the previous assurance by M. Flandre that Belgium would continue her resistance the Belgian Army on the order of L. capitulated. M. Flandre declared in a broadcast from Paris that L.'s capitulation had no legal validity and that his decision had been taken against the wishes of his Cabinet. That Belgium would continue to resist, and also that the Belgian ministers were then forthwith absolved from their allegiance to L. Thereafter L. was held by the Germans at Lükken Castle near Brussels. His conduct excited hostile comment in Britain at the time. In 1946 L. set up a committee to investigate the charges against his conduct and policy. In its report issued on June 10 1947 the committee rejected as 'entirely false' the allegation that L. had surrendered to the Germans without warning his British and French allies. The report added that following

his surrender L. refused to endorse the attitude of the Belgian Government in France which sought to negotiate an armistice with the Germans. Dealing with L.'s visit to Hitler in Nov. 1940 the report said that he had undertaken the visit to avoid reprisals which the Germans would have taken against the Belgian people if L. had persisted in refusing. Previously he had twice refused to see Hitler. The report emphasises that the Belgian pre-war policy of neutrality was fully approved by M. Paul Henri Spaak, Socialist foreign minister, and was ratified by the Belgian Parliament only three weeks before the German invasion. It stated also that the king was right when in May 1940 he decided against his government's will to remain with his troops when they were forced to surrender and that he never acted against the constitution. This was challenged by M. L.riot, the war-time Christian Socialist Prime Minister who argued that L. and his government practised two irreconcilable policies, one was again evident when the government after the liberation and received a written statement written by L. before his flight to Germany in June 1944. In his statement L. argued that any commitment undertaken by the government in exile would be null and void without his signature. Although Art. 35 of the constitution provides that if the king is unable to reign his powers are exercised by the council of ministers. By order of L. and without knowledge of the government a copy of that statement was handed to L. M. Lord Montagu to be forwarded to the British Government. M. Flandre concluded that L.'s interpretation of his constitutional rights was not in accordance with traditional Belgian conventions.

After L.'s negotiations following the king's liberation by the American armies in Austria broke down L. resided near Geneva with his wife and children. His brother Prince Charles was elected regent by parliament in Sept. 1944 when Bismarck was liberated and the king was still in captivity. In July 1945 a bill prolonging the regency until parliament authority for its termination was given by a two-thirds majority was passed by the votes of all parties excepting the Christian Socialist Party. There is no majority in Parliament in favour of the king's return. So far L. has refused to abdicate in favour of his eldest son Prince Baudouin, who was born in 1930 and according to the constitution attained his majority in 1948. See also Cammermeyer *The Prisoner of Laeken*, 1941.

Leopold Karl Gustaf (1756-1829) Swedish poet born at Stockholm. In 1786 he was made secretary to Gustavus III and collaborated with him in his works. He afterwards became a member of the Swedish Academy. His tragic death among which may be mentioned *Odin* (1822) and *Virginia* (1822) were valued highly by his contemporaries and his poems are still admired. His collected works were published in 6 vols. (1811-33).

Leopoldina Railway, one of the two former British owned railway systems in Brazil, the other being the Great W.

system. The L. R. system serves a large area to the N. and N.E. of Rio de Janeiro, with its main terminal at Rio itself, the total length being 1651 m. It was constructed and developed by Brit. capital and management at a net cost of over £15,000,000 and by 1919 had been in operation for nearly eighty years, though the later company, formed to amalgamate sev. smaller lines, dated only from 1897. In 1919 agreements were concluded for the acquisition by the Brazilian Gov. of this system and also for the Great W. system. The combined purchase prices of the two companies' systems is to be in the region of £14,000,000 and will be found by Brazil out of her accumulated sterling balances. The agreements are subject to ratification by the Brazilian Congress and to the approval of the companies' stockholders. The Great W. system lies in the N.E. states and serves primarily the rural areas, having its terminal point some hundreds of miles from Rio. The company operated the system under a lease agreement made in 1872. Both companies enjoyed a relatively prosperous and settled career for many decades, but began to encounter increasing difficulties from the early 1930s. Brazil had some £39,000,000 of 'blocked' sterling balances at the beginning of 1939, and under the Anglo-Brazilian payments agreements she will be able to pay the purchase price for the railway out of these balances.

Leopold, Lake, see RIKWA, LAKE.

Leopoldshall, vil. in Saxony-Anhalt, Germany. It has salt works, and manufs. chemicals. Pop. 6700.

Leopoldville, trading station in Belgian Congo, W. Africa. It stands on the l. b. of the Congo, near Stanley Pool, and is the cap. of L. prov. and Stanley Pool dist. This tn., which was founded by Stanley in 1882, is the chief means of communication with Upper Congo, and is connected by rail with Matadi. It is also the end of a pipeline from Matadi, crude oil being transported for use in riv. steamers. There is a regular air-service between L. and Brussels. Pop. 32,000 (3100 whites).

Leosthenes, Athenian general, was commander of the Gks. in the Lamiian war, 323 and 322 B.C. He was killed in a siege before Lamia, after having conquered Antipater.

Leotychides (491-469 B.C.), king of Sparta. In 479 B.C. he was commander of the Gk. fleet and distinguished himself as victor at the battle of Mycale.

Leovigild, or **Löwenhild** (d. 566), king of the Visigoths in Spain. He was successful in defeating the Byzantines who dwelt in Andalusia, and by 585 had united all Spain except the S. imperial dists. He was a staunch supporter of Arianism, and was ardent in his persecution of Rom. Catholics.

Lepage, Jules, see BASTIEN-LEPAGE.

Lepanto, see CORINTH, GULF OF.

Lepanto, name of a famous naval battle fought on Oct. 7, 1571, off the tn. of L. (Naupaktos) in the gulf of Corinth between a Turkish fleet of 273 galleys under Ali Pasha, with the boy of Alex-

andria and the dey of Algiers, and an allied fleet of 200 galleys, and some heavy galleasses. The allies were commanded by Don John of Austria, representing Spain, but the prin. force was contributed by Venice under Barberigo, Genoa under Andrea Doria, and the papal contingent under Marc Antonio Colonna; Sicily and Naples also sent a force commanded by the Spaniard, Santa Cruz. Pope Pius V. had instigated the league in fear of the growing and aggressive power of Turkey in the Mediterranean. The result was a crushing and final blow to the Muslim sea power; the Turkish centre was routed, their right wing annihilated, and only part of the left escaped; the Turks are said to have lost 20,000 men, including their prin. leaders. The allies lost 8000, with Barberigo. Cervantes lost an arm in this battle. See J. de la Greviere, *La Guerre de Chypre et la bataille de Lepanto*, 1888 and J. R. Hale, *Famous Sea Fights*, 1919.

Lepchas, original inhab. of Sikkim. They now number about 25,000, but are steadily decreasing, largely owing to the infiltration of large numbers of Ghurks, by whom the L. are either absorbed or driven into the mts. Their language is Mong. There is little of tribal organisation, the only grouping being into clans, which are in effect family groupings. Nowadays the sole function of these clans is to regulate marriage, since a man must not marry a girl of his own clan. There is, however, considerable sexual freedom within a family, probably because in the crowded conditions of life sexual jealousy would prove a considerable strain upon social harmony. L. believe in a spirit world, but the ordinary man must deal with the spirits by the mediation of a lama. The pop. is practically self-supporting, though some commodities, such as salt, cotton, and oil, are obtained via a prin. Tibetan trade route which passes through the country.

Lepers, see DAMIEN, FATHER; LEPROSY.

Lepidolite, mica of a lilac colour, sometimes violet, found in masses made up of scales containing lithia.

Lepidoptera, scale-winged order of insects, comprising butterflies and moths. It is the scales which give the usually gay colours to the four wings of the perfect insect. L. have a well-marked metamorphosis through the egg, larval, and chrysalis stages. Most are easily distinguished from other insects, though the clear-wing moths and some of the wingless females may be confused. The perfect insect has usually a long spiral proboscis or tongue by which nectar may be extracted from flowers. The larva or caterpillar has biting jaws which the perfect insect lacks, and usually casts its skin sev. times before pupation. The chrysalis stage is almost or quite inert, and in many cases is passed in a cocoon. See also articles under individual species. See F. W. Frohawk, *Complete Book of British Butterflies*, 1934; E. B. Ford, *Butterflies*, 1915; and vols. on butterflies, moths, and caterpillars in the Wayside and Woodland Series (Warne).

Lepidosiren, genus of dipnoid or 'lung' fishes. It is confined to certain rivers in S. America. See DIPNOI.

Lepidus, name of the famous Roman patrician clan of the *Æmili*.

Marcus Æmilius Lepidus, sent as ambassador to Ptolemy, king of Egypt, in 201 B.C. Consul in 187 B.C., he was pontifex maximus and six times princeps senatus.

Marcus Æmilius Lepidus, consul in 137 B.C., was praised by Cicero for his oratory. His conduct of the Numantine war in Spain was a fiasco.

Marcus Æmilius Lepidus, father of the triumvir, proved a grasping praetor of Sicily in 81 B.C. At first he sided with Sulla, but, having veered over to the popular party, tried to rescind the Sullan constitution in his consulate of 78 B.C. He opposed the burial of Sulla in the Campus Martius, and the bitter quarrel with Catullus, his colleague, to which his opposition gave rise, eventually led to civil war. In 77 B.C. suffered defeat in the Campus Martius at the hands of Pompey and Catullus, the senatorial leaders.

Marcus Æmilius Lepidus, useful tool to Caesar, because of his 'cold riches'. It was he who proposed Caesar's dictatorship, and in 46 B.C. was rewarded for his services by being made colleague to the dictator in his consulate, and also his *magister equitum*. In the civil war which followed Caesar's murder (44 B.C.), he joined forces with Antony, and was allowed to join him and Octavian in the triumvirate (43 B.C.). But whilst the other triumvirs fought their enemies abroad, L. was left idle in Rome, and after Philippi was stripped of Gallia Narbonensis and Spain, his provs. The young Octavian finally reduced him to impotence in Sicily (36 B.C.). Here his undignified public life ends, but he lived on till 13 B.C.

Lepine, Louis (1816-1933), Fr. police officer, b. at Lyons and educated at Heidelberg and Berlin Univs. In the Franco-Ger. war of 1871 he was a sergeant-major in Rochereau's Scouts. In 1877 he entered the civil service, and in 1892 became prefect of police for the first time and then for some years governor of Algeria. In 1899 he was again prefect of police and, during the next two decades, reorganised the service. He formed the *brigades criminelles*, founded a research dept., and estab. a body of riv. police. His fearlessness during riots was proverbial, and he narrowly escaped death on sev. occasions.

Le Play, Pierre Guillaume Frédéric (1806-82), Fr. engineer and economist, was a native of La Rivière Saint-Sauveur (Calvados). After other appointments he became prof. to the School of Mines in Paris, and in 1855 received a commission from Napoleon III. to organise the exhibition of that year and afterwards the one of 1867. He pub. *La Réforme sociale en France* (1864); *L'Organisation du travail* (1870); *La Réforme sociale* (1881); *La Constitution essentielle de l'humanité* (1884); and *Les Ouvriers européens* (6 vols., 1885). In 1886 he founded the Société internationale des études pratiques d'éco-

nomie sociale, stressing the value of private property, religion, and family organisation. See F. Auburtin, *Frédéric Le Play d'après lui-même. Vie-méthode-doctrine*, 1906.

Lepontine Alps, part of the Alpine range of mts., situated between the Simplon and Splügen passes. They include also the Adula group close to the sources of the Upper Rhine. See ALPS, Western.

Leporidae, hare family, belong to the *Duplicidentata*, a sub-order of *Rodentia*, distinguished by the presence of two pairs of incisors in the upper jaw, whereas all other rodents have one pair only. The genus *Lepus* contains the hares and rabbits (*q.v.*).

Leprechaun, in Irish-Celtic folk-lore a dwarf or gnome in the form of an old man with wrinkled face, generally a rich curmudgeon who can only be induced by threats of violence to disclose the place where his treasure lies; but when caught by human beings he purchases his liberty by revealing the location of a 'crock of gold' which disappears when its hiding-place is found. The L., though peculiar to Ireland, seems indebted to England; at least, for his name. In Irish he is called 'Lobaircin,' akin to Eng. 'Lubberkin,' and L. is no doubt a corruption of that word. In the time of Elizabeth the word 'Lubrican' was used in England to indicate some kind of spirit. The Ulster 'Lucharmán' or 'Lougheryman' is also probably of Eng. origin.

Leprosy, an endemic, chronic, and mildly infectious disease caused by the *Mycobacterium lepre*, which was first identified as its cause by Dr. Hansen of Norway in 1871. L. has, however, been known from time immemorial, and owing to ignorance and bad diagnosis the term, in general and even technical usage, included until the nineteenth century the pathological condition of almost any one suffering from a scrofulous or skin disease. In biblical times it was regarded as a visitation from God for certain heinous sins. In this wider sense it was common in Great Britain and Europe throughout the Middle Ages, and many hostels for the shelter of sufferers were estab. in this country, being usually known as leazar houses from St. Lazarus, the patron saint of the disease. Rigid segregation, mainly under the influence of the Church, effected the disappearance from this country—as endemic—of the disease by the beginning of the sixteenth century; the number of cases now in Great Britain is estimated at between 200 and 300, compared with estimated figures for the world of 7,000,000 and for the empire 3,000,000.

Prior to the First World War leprosy was mildly endemic in most S. European countries, and the movements caused by war may have increased the incidence. In N. Europe it is not endemic. The central African belt is probably the most highly infected part of the world per head of the pop., though India and China, for which accurate figures are lacking, are heavily infected. Africa, it is estimated, has 1,000,000 to 1,250,000 cases.

The disease is not hereditary, nor a dirt

or sex disease. The method of transmission is not certain but seems to be by continuous close association in the family, school and similar relations. Although like every other disease it is encouraged by bad health conditions and is most prevalent where crowded housing makes close contact inevitable, it is not restricted to class, race, or colour. Liability to infection, however, seems to be confined to young and adolescent children and to a small proportion of adults who are particularly susceptible to it. No specific cure or protection from the disease has been found comparable with penicillin or quinine but the first and most important treatment by injections with chaulmoogra oil and its derivatives is usually beneficial in early cases. During the last seven years good results have been obtained from the sulphone family of drugs, particularly in severe cases and research with them and other synthetic drugs is active. The disease is found in two main types with intermediate variations. The tuberculous type is not infectious and can well be treated in out-patient clinics, it is however liable unless treated to turn into the other type and since it affects the nervous system, frequently results in disfigurement and maiming through trophic changes of the nerves and body extremities. The lepromatous type affects the skin and constitutes perhaps one quarter of all cases. This type is probably the source of infection and spread of the disease by contact but although it produces nodules and superficial disfigurement does not normally render the sufferer unfit for work. Such cases should be segregated or at least isolated from the chance of contact with children. In fact the protection of children is the most important side of Leprosy control work.

The difficulties in control of the disease arise from the tradition-mindedness of most of the peoples afflicted with the disease, their lack of health education and the financial stringency of most of the colonies affected. Although most of the colonies have under the Colonial Development and Welfare Acts of 1940 and 1945, framed their plans, these have been slow to develop though British Guinea, Fiji, Nigeria, and others have been a little further.

Finally the psychological side must be stressed. A leper is everywhere a taboo because he has the disease. It is not his fault, and he may well be uninfected. But the taboo reacts on his chances of recovery, and a more humane view of the disease would give him much better hopes not only of being cured, but of complete rehabilitation. See A. Weymouth *Through the Leper Squint* 1938, L. Rogers and E. Muir, *Leprosy*, 1940, P. Burgess *Who Walks*, 1941, R. G. Collingwood *Practical Textbook of Leprosy*, 1947, and E. Muir, *Manual of Leprosy* 1948.

Lepsius, Karl Richard (1810-84) Ger Egyptologist, b. at Naumburg am Saale. In 1834 he wrote his first book, *Die Paläographie als Mittel der Sprachforschung*. Between 1834 and 1842 he travelled in England, Italy, Holland, and Germany,

collecting materials for his dissertations on Egyptian art, and studying the ancient Egyptian and Osirian languages. During the 1840s he wrote *Lehrbuch der Ägyptischen Paläographie und Hieroglyphik* and *Inschriften der Ägypter*. He conducted a scientific expedition (1842-43) to Egypt and published the results of his researches in *Denkmäler aus Ägypten und Aethiopien* (12 vols. 1919-29). His other works include *Chronologie der Ägypter* (1841), *Über den ersten ägyptischen Hieroglyphen* (1841), *Ägyptische Buchführung* (1848), and *Standard Alphabet* (2nd ed. 1863). See life by G. Ebers 1887.



LEPIS MINA COURTS OF JUSTICE

Lepus 1 *Lepus Magna* (modern Lebda) a port in the N coast of Africa 60 m S of Tripoli once a Phoenician colony. 2 *Lepus Minor* a port in the N coast of Tunis now ruined on the E coast of Tunis, Africa.

Lepus (the Hare) a constellation supposed to represent a hare in the act of running from Orion's dog. It is situated directly under Orion.

Le Puy, or **Le Puy en Velay**, see **Puy**.
Le Quenoy, see **QUENNOY**.
Le Queux, William (1863-1927) Eng novelist. b. in London. He travelled much and made a fine collection of medieval MSS. He wrote over 130 sensational stories, his most famous being *The Invasion of 1110* (1906). See N. S. Bladen, *The Real Le Queux* 1938.

Lercara Friddi, tn with important sulphur deposits in the prov. of and 28 m SSE of the city of, Palermo, Sicily. Pop. (com.) 14,000.

Lerici, small seaport 12 m. E S E of Spezia, on the gulf of Spezia in Liguria, Italy. Close by are smelting works for lead ore. Pop. (com.) 10,000.

Lerida, 1 Prov. of N. E. Spain watered by the Ebro and its tributaries. Canals have rendered the S. E. mts. of Lerida comparatively fertile, but agriculture is not very profitable. There are linen and cotton factories, distilleries, etc. Wine, wool and cattle are exported. Area 46,689 m. Pop. 286,900. 2 Cap. of the above prov. on the S. E. 3 m. N. of Tortosa. There are two cathedrals and it has old fortifications. It manufactures silk and leather. Pop. 46,000.

Lérins, *Iles de*, group of 11 is. 2 m. S. of Cannes in the Mediterranean Sea. Marguite and St. Honorat are the largest and in the latter are ruins of a 4th century monastery.

Lérins, *Claro Josephe*, see CLARO.

Lerma, 1 Riv. of Mexico state, Mexico, a few miles E of Toluca. Top about 7,000. 2 Riv. of S. Mexico, in N. E. S. W. of Mexico city and flowing into the Gulf of California, 200 m. E. of the Gulf of California and flowing into the Gulf.

Lermolov, Ivan, see MOROZOV, GIOVANNI.

Lermontov, *Mikhail Yurjevich* (1811-1841) Russ. in poet and novelist. He wrote his best work at Moscow, but in an office in the Caucasus. Ivan Nicholas transferred him to the Caucasian army as he was indignant with the tone of his work on the death of Pushkin. But the wild life of the mountainous Caucasus proved no exile to the freedom loving poet. Here he wrote his novel *Prinets Genz* (1840) and here he died. The English and French literature of the time were still Byronic. More like a true romantic than any other Russian poet he had an imagination of a loving, supernatural nature in his poem of romantic love *Tamara* (1839).

Leroi, *Julien David* (1841-1903) Fr. writer on architecture. He went to Rome to study the art and in 1871 he visited Greece for a similar purpose and on his return published *Rome et ses plus beaux monuments* (1874) and *Grèce* (2nd ed. 1877) which was the earliest systematic account of the archaeological remains of that country.

Leros, one of the S. Sporades near Rhodes in the Aegean forming part of Greece. There are marble quarries. In 1938 the Grk Gov. instituted a law here for reclaiming and reducing bandits who had been victims of rebellion and general unrest in the civil war (see GREECE II, 1938). Pop. 1,000.

Le Roy, *Edouard* (b. 1870) Fr. philosopher, member of the Academy of Moral and Political Sciences since 1919, deputy for Belgium at the College de France 1921, and was titular prof. there from 1921. He is a chevalier of the Legion of Honour. His chief works are *Les Origines humaines et l'évolution de l'intelligence* (1928) and *Le Problème de Dieu* (1929). Other works: *Logique et critique* (1907), *Une Philosophie nouvelle*, *Henri Bergson* (1912), *L'Existence idéelle et le fait de l'évolution* (1927),

and *Introduction à l'étude du problème religieux* (1944).

Leroy-Beaulieu, *Henri Jean Baptiste Anatole* (1842-1912) Fr. publicist. He wrote a series of articles for the *Revue des deux mondes* (1882-89). In book form these articles became subsequently known as *L'Empire des Tsars et des Russes*. In another of his Russian studies *L'Homme d'Etat russe*, he told the story of the emancipation of the serfs under Alexander II. He also wrote several books on Judaism and the Jews, and on Roman Catholicism and the papacy.

Leroy-Beaulieu, *Pierre Paul* (1843-1916) Fr. economist, brother of the preceding, became prof. of political economy at the Collège de France. In his popular *Le Collectivisme* (1883), he purposed to expose the errors of collectivist doctrines. Other of his works are *La Colonisation chez les peuples modernes* (1874) and *Le traité de la science des finances* (1877).

Lerroux, *Alejandro* (1861-1919) Sp. statesman, b. at La Rambla Cordova. He studied law in Barcelona, then entered politics and became leader of the advanced republicans. Elected to the Cortes in 1901 but his republican opinions led to his exile and he went to S. America (1907).

He returned to Spain after the First World War in which he had enthusiastically supported the allied cause and took a prominent part in the formation of the Sp. Republic in 1931 being the first foreign minister in the provisional Gov. of Radical Socialist, Socialist and Republican Alliance parties. During the five years from 1931 to 1936 he was constantly in and out of office as Prime Minister, a result due not to his individual policies, such as the chaotic nature of the country in the formative days of the new constitution. At the time of the election to the first president of the new republic, his experience and record of leadership marked him out as a likely candidate, especially as the prestige he had acquired as a representative of Spain in the League of Nations would have made his appointment welcome abroad. But he was excessively unpopular in Catalonia, whose autonomy he opposed, and in the end the gov. favoured Zamora. The Anarchists under L. then separated themselves from the coalition and went into opposition. He became Prime Minister in Nov. 1931 after a political landslide at the election due to reaction from the reforms of the left which were often marked by tyranny. His Radical party or Centre party being returned as the largest single party in the Cortes. During his term of office his gov. subdued dangerous Anarchist Syndicalist revolts in Seville and elsewhere but he resigned when the president rebuffed him over the Amnesty Bill for political crimes committed before Dec. 18 1931. In office again soon afterwards, he pursued an energetic but unpopular policy of public economy and constitutional revision and again resigned; but once again entered the Foreign Office from which a petty gambling transaction involved his resignation. He took no active part in politics after the outbreak

of the civil war. Pubs.: *Al Servicio de la Republica* (Madrid, 1930) and *Trayectoria politica de Alejandro Lerroux* (selections from speeches and writings, 1934).

Lerwick, seaport and cap. of the Shetland Is., Scotland, and the most northerly tn. of the United Kingdom. It is on Bressay Sound, a natural harbour on the E. coast of Mainland, and lies 115 m. to the N.E. of Kirkwall in Orkney. L. is an important fishing station, and also a centre for the R.N. Reserve, who use the old Cromwellian fort as their depot. Pop. 5100.

Lesage, Alain René (1668-1717), Fr. author and dramatist, b. at Sarzeau, Morbihan. An assiduous writer, he pub. over a hundred dramas, the best of which are *Crispin rival de son maître* (1707), an extravagant farce of a knavish valet, and *Turcaret* (1709), a brilliant and essentially Molière-que comedy and satire on the contemporary dealers in finance. But his fame now rests on his romances, *Le Diable boiteux* (1707) and *Gil Blas de Santillane* (completed in 1735). Though the scene of the latter, his masterpiece, is laid in Spain, it is the life of Paris which is painted. The characters of Gil Blas and the preposterous quack, Dr. Sangrado, as also of the sprightly demon Amodeus in *Le Diable boiteux*, are drawn with the detachment of a great artist, whilst as a stylist L. ranks with the best authors of his day. See study by E. Lintilhac, 1893, and G. Lanson, 'Études sur Gil Blas' in *Hommes et livres*, 1895.

Les Andelys, see **ANDILYS**.

Lesbonax, Gk. rhetorician, who lived in the days of Augustus. According to Suidas he wrote at least sixteen political orations, but two only have survived to our times. In one of these he urges the Athenians to persist in their struggle with Sparta.

Lesbos (historian), see **HILLANICUS**.

Lesbos, see **MYTILINI**.

Les Cayes, see **CAYES, LES**.

Lesse-majesté, see **LEZZI-MAJ-STY**.

Lesghians (also called **Lesghis**, **Lezgins**, and **Leki**) are a people, composed of about twenty-seven tribes, who dwell with the Tchetchens in the Daghestan in the Caucasus, and also in Kuba, She-makha, and Sakataly, and other regions of Transcaucasia. There are some 600,000 of them in all, and among them are included Avars, Kurinians, Lakians, Andians, and Kasimukhians. In 1839 when Shamyl, their leader, was taken prisoner, they lost their independence and came under the Russian yoke.

Lesina, see **ILVAR**.

Leskov, Nikolai (1831-95), Russian novelist, b. at Orel. He worked as a clerk and as an estate manager's assistant, in which latter capacity he gained an insight into peasant life which he subsequently put to good use in his novels. Some journalistic success led to his settling in St. Petersburg as a young man, and it was not long before his efforts in fiction attracted notice. A strong enemy of the revolutionary movement of the sixties, his early work was largely an attack on

the movement, and his attitude towards certain contemporary conditions aroused considerable opposition, but his influential friends procured him official positions that eased his circumstances. Late in his career, however, he eschewed the bitterness of politics and devoted himself to pure literature. His numerous stories are remarkable for originality of style and conception. His subjects were largely the church and clergy, the beliefs of the people and their superstitions. He also showed himself an ardent adherent of the social doctrines of Tolstoy. His prin. works are *The Bull Sheep* (pseud. 'M. Stebnitsky') (1863); *The Blind Pilcy* (1864); *Old Days in Plodomasora* (1869); *Cathedral Folk* (trans. into Eng., 1872); *The Enchanted Wanderer* (trans., 1873); *The Scolded Angel* (1873); *A Decayed Family* (1874); *On the Edge of the World* (1875); *The Just Men* (1877); *The Left-handed Smith and the Steel Flea* (1881).

Leskovac, or **Leskovatz**, tn. of Serbia, Yugoslavia, 26 m. N. of Vranja. Hemp, flax, and tobacco grow in plenty. Pop. 11,000.

Leslie, Lesly, or Lesley, The family of, descended from Malcolm, son of Batholi, who lived during the latter part of the twelfth century in Lesslyn or Leslie, in Aberdeenshire. In 1157 the family received a title by the conferment of the earldom of Rothes on George L., a native of Rothes. The seventh earl was created duke of Rothes, marquess of Ballinbreich, but d. without issue, the title continuing through the family of his eldest daughter. Connected with the earls of Rothes are the earls of Leven, descended from Alexander L. (q.v.); the Lords Lindores, whose title was created in 1600 and became extinct in 1775; and the Lords Newark, the first of whom was David L. (q.v.). See Col. C. Leslie, *Historical Records of the Family of Leslie*, 1869.

Leslie, Alexander, Lord Balgonie, first Earl of Leven (c. 1580-1661), Scottish general, a native of Aberdeenshire. He enlisted as a common soldier in the army of Gustavus Adolphus, king of Sweden, but by 1616 he had been promoted to the rank of field marshal of Sweden, and his gallantry was rewarded by a knighthood. He fought with great distinction in the Thirty Years war, holding the chief command under Gustavus. In 1629 he successfully defended Stralsund against the insurgent imperialists, led by Wallenstein. Nine years later he was recalled to Scotland to resist the eccles. policy of King Charles I. and set himself to organise the Covenanting army. With his army he marched s. to Dunn Law in 1639, and in 1640 reached Newcastle, which he held till the treaty of Ripon in 1641. In August of that year he was received by the king and created earl of Leven and Lord Balgonie. He fought in Ireland in 1612, and later commanded the Scots Covenanters against the Royalists in the Civil war. Charles surrendered to him at Newark in 1647. After the execution of the king he worked for the restoration of Charles II., and fought against Cromwell at Dunbar in 1650. In 1651 he was

imprisoned in the Tower, and on his release retired to Scotland, and *d.* at Balgonie in Fifeshire. See C. S. Terry, *The Life and Campaign of Alexander Leslie, First Earl of Leven*, 1899.

Leslie, Charles Robert (1791-1859), Eng. painter and writer, *b.* in London of Amer. parents. His first successful picture was 'Anne Page and Slender' (1817), which was followed by 'Sir Roger de Coverley going to Church' (1819). He chose his subjects chiefly from the works of Shakespeare, Addison, Fielding, and Cervantes. In 1824 he was elected an R.A. after the exhibition of his 'Sancho Panza and the Duchess' (1826). He was appointed prof. of drawing at the Military Academy at West Point (1833-34) and prof. of painting at the Royal Academy (1848-51). He also gained some popularity as a writer, his chief books being *Handbook for Young Painters* (1845), a life of Constable (1815) and of Sir Joshua Reynolds, which was completed by Tom Taylor (1865), who also ed. his *Autobiographical Recollections* (1860).

Leslie, David, Lord Newark (1601-1682), Scottish general, fifth son of the first Lord Lindores. He took part in the Thirty Years war, serving under Gustavus Adolphus, but returned to Scotland about 1640 at the time of the rise of the Covenanters against King Charles I. Joining the troops under his kinsman, Alexander L., earl of Leven, as lieutenant-general, he was present at the battle of Marston Moor (1644), routed Montrose at Philiphaugh (1645), and fought in the siege of Newark, when Charles took refuge in the Scottish camp. With the earl of Leven and the rest of the Covenanters, he went over to the Royalist side, and after some strategic success was taken prisoner by Cromwell at Worcester in 1651 and was confined in the Tower till the Restoration. In 1661 he was created Lord Newark. See S. R. Gardiner, *History of the Great Civil War*, 1886-91.

Leslie, Frank, see CARTER, HENRY.

Leslie, or Lesley, John (1527-96), Scottish bishop and historian, *b.* at Kingussie, Inverness-shire, where his father, Gavin L., was rector. He studied theology at Poitiers, Toulouse, and Paris, and took holy orders in 1558. He was strongly opposed to the Reformation, and in 1561 had a disputation with Knox and others. In the same year he went to France to accompany home the young Queen Mary, whose friend and spiritual adviser he continued to be to the end of her life. His promotion was now rapid. He was appointed prof. of canon law, Aberdeen (1562), privy councillor (1565), abbot of Lindores (1565), and bishop of Ross (1565). He also sat on the commission to revise the laws of Scotland, and was largely responsible for the 'Black Act' or *Actis and Constitutions of the Realm of Scotland* (1566). On the imprisonment of Mary in England, he appeared as her ambas. before Elizabeth, plotted for her escape, and made plans for her marriage with the duke of Norfolk. In consequence he was imprisoned in the Tower (1571-73) and was

afterwards banished from England. While on the Continent pleading Mary's cause he pub. *De Origine, Moribus, et Rebus Gestis Scotorum* (Rome, 1578). In 1579 he was made suffragan and vicar-general of the diocese of Rouen, and was twice imprisoned on account of his political opinions. He was appointed bishop of Coutances in Normandy (1593), and *d.* in an Augustinian monastery near Brussels. His writings include *A Treatise concerning the Defence of the Honour of Marie, Queene of Scotland* (1569), under the pseudonym Eusebius Dilectophilus; and *De illustrium foeminarum in republica administranda auctoritate libellus* (1580). See E. C. Cody's ed. of the Lat. hist. (Scottish Text Society, 2 vols., 1888-95).

Leslie, Thomas Edward Cliffe (1827-82), Brit. political economist, *b.* in co. Wexford, Ireland. In 1853 he was appointed to the chair of jurisprudence and political economy at Queen's College, Belfast. His papers on industrial economy were collected in *The Land Systems* (1870); *Essays on Political and Moral Philosophy* (1879); and *Essays in Political Philosophy* (1888).

Leslie, mrlt. tn. of W. Fifeshire, Scotland, on the Leven, 3½ m. S. of Falkland, with bleach-works, and flax-spinning and paper-mills. Pop. about 2000.

Lesmahagow, coal-mining vill., 5 m. S.W. by W. of Lanark, in Lanarkshire, Scotland. Pop. 13,000.

Lespinasse, Jeanne Julie Eleonore de (1732-76), Fr. authoress, *b.* at Lyons, the illegitimate daughter of the Comtesse d'Albon. For ten years (1751-61) she acted as companion to Mme du Deffand, and in her *salon* made the acquaintance of d'Alembert and other members of her brilliant coterie. But the attractions of her companion roused the jealousy of Mme du Deffand, and a violent quarrel ensued, the result of which was that Mlle de L. set up a rival *salon*, and d'Alembert shared her roof. She did not, however, accept him as her lover, but, as her *Lettres* (pub. in 1809) reveal, was the victim of a devouring passion for the Comte de Guldert, and in a less degree for the Sp. Marquis de Morn. See A. Beaumier, *La Vie amoureuse de Jeanne de Lespinasse*, 1928; also life by P. de Séguin (King. trans.), 1907.

Lesse, riv. of Belgium and one of the main tribs. of the Meuse, rising in the prov. of Luxembourg and flowing N.W. through the prov. of Namur. It joins the Meuse at Anseremme, 2 m. S. of Dinant. At Belvaux the waters of the L. disappear to continue for 24 hrs. their mysterious underground course, which has formed the famous caves of Han.

Lessen, see LESS NER.

Lesseps, Ferdinand, Vicomte de (1805-1894), Fr. diplomatist and engineer, *b.* at Versailles. In 1828 he was sent as assistant vice-consul to Tunis, and in 1832 he was appointed vice-consul at Alexandria. He received the Cross of the Legion of Honour for his heroic conduct during an epidemic of the plague (1834). He became consul at Cairo, and while here began his plans for the construction of the Suez Canal. In 1837 he married Mlle

Agathe Delamalle. His second wife was Mlle Autard de Bragard. By his first marriage he had five sons, by the second twelve children. He served as consul at Rotterdam, Malaga, Barcelona, and Madrid. In 1854 he received the concession authorising him to pierce the isthmus of Suez. He obtained, by subscription, more than half the capital he needed, and the canal was finished in 1869 (see SUEZ CANAL); for this he received the Grand Cross of the Legion of Honour and an Eng. knighthood. In 1881 he commenced the Panama Canal. The funds were insufficient and political trouble followed; the company was wound up in 1888, and the directors were charged with fraud (see PANAMA CANAL). De L. came to England enfeebled in health and broken with trouble. He was later exonerated of complicity in the fraud and returned to France, where he d. at La Chénale in Berry. He was a man of great courage, with a reverence for duty and honour, possessing simple tastes and an affectionate nature. He was a member of the Fr. Academy and of the Academy of Sciences. See G. Smith, *The Life and Enterprises of Ferdinand de Lesseps*, 1893, and J. d'Elbée, *Un Conquistador de génie*, 1938; also life by H. J. Schoenfeld, 1937. Lesser Antilles, see ANTILLES; WEST INDIES.

Lesser Brethren, see FRANCISCANS.
 Lesser Pettyshops, see CHIFFCHAFF.
 Lessines (Flemish Lessen), Belgian city, situated in Hainaut on the R. Dender, 19 m. N.N.W. of Mons. It has important porphyry quarries and manufs. of safety matches and electric lamp bulbs. Tobacco and medicinal plants are largely cultivated in the surrounding dist. Pop. 9900.
 Lessing, Gotthold Ephraim (1729-81), Ger. essayist, critic, and dramatist, b. in Kamenitz in Upper Lusatia (Saxony). After five years at Meissen he passed in 1746 to Leipzig Univ. to study theology, but found more attraction in philosophy and literature. After a few years' literary hackwork in Berlin he went to Wittenberg (1751-52) where, in the course of extensive reading, he took his M.A. The next two years were spent in Britain studying Lat. and Eng. literature; in 1754 appeared his first work of importance, *Vademecum für den Herrn G. N. Lange*. About this time he became intimate with Nicolai, and collaborated with Moses Mendelssohn in the brilliant essay *Pope, ein Metaphysiker* (1755); the same year saw the pub. of his first drama of any worth, *Miss Sara Sampson*, the outcome of his studies in Eng. literature. The Seven Years' war (1756-63) cut short a three years' tour L. had projected, and he returned to Leipzig, where he remained for a time with the poet von Kleist; but 1758 found him again in Berlin with Nicolai and Mendelssohn, with whom he issued a jour. *Literaturbriefe*, consisting of letters in criticism; the fifty-four letters which L. himself contributed are the direct antecedents of his later writings, and possess much of the same elegance, force, insight, and originality. From 1760 to 1765 he was secretary to the governor

of Breslau, but returning to his literary career he produced in quick succession two of his finest masterpieces, *Laocoon* (1766), one of the greatest constructive critical works on aesthetics ever written, and *Minna von Barnhelm* (1767), the first great comedy in the Ger. language in point of both chronology and merit. His essays on the Fable (1759) and the Epigram (1771) must also be mentioned. His ideas found a maturer expression in his *Hamburgische Dramaturgie* (1769), the outcome of his short-lived connection with the National Theatre of that tn. A series of brilliant pamphlets followed, notably the essay *Wie die Allen den Tod gebildet* (1769), written in controversy against Klotz and the whole school of eclectics, who had attacked his *Laocoon*. The following year he became librarian at Wolfenbüttel, under the patronage of the duke of Brunswick, with whom he subsequently travelled in Italy; and here *Emilia Galotti* (1772), his greatest tragedy, was pub. In 1776 he married Eva König, but she d. in childbirth after little more than a year's conjugal happiness. Meanwhile L. had become entangled in theological controversy against orthodox Lutheranism under George of Hanburg, his chief attack being the *Reinhardt's Freymüthig*; but for fear of incurring the displeasure of his patron he returned to 'his old pulpit, the stage,' and summed up his ideas on fiction in the splendid dramatic poem, *Nathan der Weise* (1779). The following year saw the completion of the masonic dialogues, *Ernst und Falk*, and also *Die Erziehung des Menschenge schlechts*, the corner-stone of his theological writings and his last work of importance. His works rank as monuments of constructive criticism; they bear witness to his profound learning, and are written in an exceptionally concise and vivid style. There are eds. of his works by K. Lachmann, 12 vols. (1838-40); 24 vols. re-ed. by L. Mueker, 1886-1924, 3rd ed.; E. Bell (dramatic works), 2 vols. (1879); R. Boxberger and H. Blümner, 14 vols. (1883-90); and J. Petersen and M. von Olshausen, 25 vols. (1925-29). See H. B. Garland, *Lessing, the Founder of Modern German Literature*, 1937, and A. von Arn, *Lessing und die geschichtliche Welt*, 1944; also lives by J. Sima, 1877; H. Zimmermann, 1878; T. W. H. Rolleston, 1889; and E. Schmidt (11th ed.), 1923.

L'Estrange, Sir Roger (1616-1701), Eng. pamphleteer, b. at Hunstanton, Norfolk. He accompanied Charles I. on his expedition against the Scots and during the Civil war was captured by the Parliamentarians in an attack on Lynn and condemned to death as a spy. He was reprieved and imprisoned in Newgate, but escaped in 1648 and fled to the Continent, returning to England in 1653, and making terms with Cromwell. He was made licensor of the press at the Restoration. In 1663 he estab. the newspaper the *Public Intelligencer*, and also the *News*, which in 1665 became the *London Gazette*. From 1675 to 1680 he issued the *City Mercury*, or *Advertisements concerning Trade*, and in 1679 he founded the *Observer*. He lost his office as licensor at the revolution of

1689. He was a man of letters of considerable ability, and made some good translations of Josephus, Cicero, Esop, Erasmus and Quevedo.

Le Sueur, Eustache (1617-55) An sacred and historical painter, b in Paris. His best work is a series of pictures on the life of St Bruno. Many of his pictures, including 'Angel and Hagar', 'St Paul preaching at Ephesus', and numerous fine black and white drawings are in the Louvre Paris. See life by G. Rouches, 1923.

Lesueur, Jean Francois (1760 or 1763-1837) French musical composer, b at Dieuze near Abbeville. He was musical director at the cathedral of Notre Dame Paris, 1786-97. From 1791 to 1802 he was inspector of studies at the Paris Conservatoire, and in 1801 he was appointed Maestro di Cappella to Napoleon for whose coronation he composed the musical service. Louis XVIII returned him at his court, and in 1818 appointed him prof. at the Paris Conservatoire. His operas include *Le Calice Du Roi* and *Paul et Virginie*.

Le Sueur, William Dawson (1810-1917) Canadian author and lecturer, b at Quebec. Educated at Victoria High School and Toronto Univ. From 1858 to 1910 he was secretary of the postal office, and later became vice president of the Canadian Postal Authorities. He was joint editor of *The Makers of Canada* series, which he contributed a list of Count Brudenell (1906). Other works of his are *A Defence of Modern Thought*, *Evolution and the Ecclesiastical*, *Evolution of Modern Thought*, *The Theory of Matter*, *God and the Development of Man*, *Philosophy and the Development of Man*, *Philosophy and the Development of Man*.

Letchworth, tn in Hertfordshire, England, 4 1/2 m N of London. It was founded in 1903 as a garden city on the line suggested by Sir Lancelot Howard (*1903 in the Garden City Path to Letchworth* (1898)) and has been developed as an industrial and residential tn by First Garden City Ltd on an estate of 598 acres, much of which is a permanent rural belt. There are over a hundred factories and workshops in the industrial area, the leading industries being heavy and light engineering, tabulating machinery, printing, bookbinding, electrical, parachutes, perambulators, photographic papers, the manufacture of refuse collection vehicles, furniture, corsets, and scientific instruments. Careful balance is maintained between industries, recreational and female skilled and unskilled labour with the result that in times of depression the whole tn is not affected. Letchworth has been selected as the site for one of the new colleges to meet the needs of N. Herts. The tn is within the outer county ring suggested in the Greater London Plan, 1944, and the proposed optimum pop is 32,000. It is one of the healthiest tns in England and an outstanding example of modern tn planning. Pop, 21,500. See also GARDEN CITIES. See the books issued by First

Garden City Ltd and C. B. Pardoll, *The Garden City*, 1913, and *The Building of Saltaire*, 1923, 1949.

Le Tellier, Francois Michel, see LOUVORS, MARQUIS DE.

Lethaby, William Richard (1857-1931), Eng. architect and student of antiquity, b at Barnstaple. He won the Soane medalion in 1879 and the Pugin student ship in 1881. From 1896 to 1912 he was principal of the L.C.C. School of Arts and Crafts, and from 1900 to 1918 prof. of design at the Royal College of Art. He was also a member of the committee of the Society for the Protection of Ancient Buildings. Among his writings may be mentioned *Architecture, Mysticism and Myth* (1892), *Leadwold* (1893), *The Church of Santa Sophia Constantinople* (a study of Byzantine building in collaboration with H. Swanson, 1894), *London before the Conquest* (1902), *Medieval Art* (1904), *Westminster Abbey and the King's Craftsman* (1901), *Crack Buildings* (1903), *Westminster Abbey and the Antiquities of the Coronation* (1911), *Architecture* (1912), *Form in Construction* (1922), *Life and Growth* (1913), an outline of the life of Philip Webb (1913), and *Hammer Abbey* (1914). In 1906 he became surveyor of the fabric of Westminster Abbey and held that post for twenty-one years, and from 1902 to 1912 was architect to the cathedral.

Lethargic Encephalitis, see ENCEPHALITIS.

Lethargy state of morbidly sound or prolonged sleep from which the sufferer can be aroused only with great difficulty. It is intermediate between heavy sleep and complete coma, and may be the result of excessive excitation either of mind or body, but is more often occasioned by a congestion in the vessels of the brain when it is attended by great danger.

Lethbridge (formerly **Coalbanks**, later **Coalhurst**) tn of Alberta, Canada, 145 m S.W. of Calgary. It owes its existence to coalmining. In 1882 mines were opened at what was then known as Coalbanks. The following year a railway line was surveyed from Dunsmuir to Coalbank, and with the completion of the line mining operations began in earnest. Shaft were sunk and operated on the same underground level, the output then being about 900 tons and the pop. 350. In 1885 the Canadian Pacific Railway agreed to take 9000 tons to encourage the enterprise, as well as to ensure cheap fuel for the settlers. The N.W. Coal and Navigation Company was then formed in England with a capital of £50,000, with Wm. Lethbridge of Courtlands, Devon, England as president. Coalhurst was the first official name assigned to the post office here as there was already in Ontario a small place known as L. This situation naturally caused confusion, as the station bore the name L., and all official correspondence was addressed to Coalhurst. Hence the name was eventually changed to L. In 1899 work commenced on the Alberta Railway and Irrigation Company's canal which extended from St. Mary's R. to Chin Coulee.

From that time L. in addition to coal developed as a large farming dist. There is a dehydration plant and other industries and a airport. It was incorporated as a tn. in 1891 and as a city in 1906 Pop. 19,900.

Lethe (Oblivion), in ant. Gk. mythology, one of the rivers of the lower world whose waters when drunk by the dead caused them to forget all evils past. The belief first appears in literature in the fifth century B.C. when Aristophanes mentions it in his *Frogs*. Pluto embodies the myth in his *Leopold* (τ) and Pausanias includes the drinking of the waters of L. as part of the Orphic initiatory rites (ix. 33-5), with which compare Dante's *Purgatorio* (xxviii and xxxiii). See J. L. Harrison *Introduction to the Study of Greek Religion* 1908.

Lethington, Lord, see MATTLAND, SIR PETER.

Leti Group, see under MOLLUSCS.

Leto (called Latona by the Romans) in ant. Gk. mythology, the daughter of Coeus the Titan and Phoebe was believed by Zeus and by him became the mother of Apollo and Artemis. The later poets dwell upon Heracles' persecution of her both before and after her connection with the is. of Delos, but Homer and Hesiod do not mention it. Her worship was generally connected with that of her children particularly at Argos and Delos.

Le Touquet, see TOULITT II.

Lettering The hist. of European L. is broadly a hist. of modifications due to the various means of reproducing it in different ages. The classic Rom. alphabet whose form was standardised by about the first century A.D. was the archetype of all later styles and owed its main characteristics to the fact that it was incised in stone. Later the scribe who wrote with a pen on vellum was not consciously devising new forms, but doing his best to imitate earlier models. He worked on a smooth, easy surface and the capitals tended to become rounded and at the same time he narrowed the proportions to save space. Since the sixteenth century the exigencies of type design have influenced L. so that for example, swash characteristics tend to be eliminated.

The following is a brief hist. of the development of L. *Roman capitals* of which the best known example is the inscription on Trajan's column were the models for what are called *square capitals*. These were formal pen made letters and were in use until the beginning of the sixth century at the same time as the freer form of *rustic capitals*. By the fourth century *uncials* were developed a rounder hand more characteristic of the pen and quicker to write. Their evolution to *half uncials* at about the beginning of the sixth century marked the first appearance of minuscules proper with 'ascenders' and 'descenders'. This hand branched out into different families the Irish half-uncial becoming one of the most perfect forms. The revision of liturgical books instituted by Charlemagne in the eighth century brought about a revival of good penmanship which had declined outside

England and Ireland. The creation of the hand now known as the Caroline Minuscule by Alcuin at the monastery at Tours had a widespread influence throughout all Europe, except Germany and was to become the prototype of our present-day Rom. alphabet. However by the twelfth century the impulse towards speed of writing and the necessity to save space resulted in a gradual compression and increasing angularity to form the characteristic Gothic style. Fortunately the Renaissance saw the revival of the Carolingian Minuscule in Italy and it was this hand which the first printers followed when cutting their types. The rapid spread of the invention of printing saw the gradual decline of the art of L. and the monastic scriptorium was no longer the home of bookmaking. Therefore the letter forms found in fifteenth and sixteenth century MSS. have acquired a permanence due to the conservative character of type design.

At the turn of the present century, which saw a reversion to earlier forms of craftsmanship in various fields, there was a revival of good penmanship associated with the names of Wm. Morris, Edward Johnston, Eric Gill and others. In the present day the wood engraved L. by Reynolds Stone should be mentioned. Side by side with this revival has come the enormous domain of commercial advertising for a bewildering variety of styles which while of a high technical competence are of very varied artistic merit. See also ILLUSTRATION OF MANUSCRIPTS, TYPE AND TYPESETTING. See II Johnston *Writing and Illuminating and Lettering* 1906. I Munde Thompson *Introduction to Greek and Latin Palaeography* 1912 and Sir A. H. Hall, *English Writing Masters, 1700-1800* 1931.

Letterkenny, town in co. Donegal, Ireland, 2 mi. W. by S. of Londonderry. Hist. industries of shirt making and rope making. Pop. 2000.

Letter of Credit, see CREDIT LETTER.

Letter of Marque, licence or commission granted by the gov. to a private person to fit out an armed ship or privateer to capture the enemy's ships and merchandise in time of war or in reprisal for damage done. Privateering was abolished by the declaration of Paris in 1856 so that the granting of Ls of M. has fallen into disuse. See also PRIVATEERS. See II Wharton *International Law* (10th ed.) 1901 and W. E. Hall *International Law* (8th ed.) 1921.

Letterpress Printing, see PRINTING.

Letters, or Epistolary Writing, branch of literature which is but little studied although one of the most delightful forms. A good letter requires to be natural, easy, and well expressed, suited to the nature and requirements of the person addressed. Among the L. of literature those of Mme. de Sévigné occupy one of the foremost places. Among the most famous L. in Eng. literature the first in date are the *Paston Letters* written between various members of the Paston family (afterwards earls of Yorkmouth) between the years 1422 and 1509, and first pub. in 1923. These, not being meant for publication, are frank and natural, and provide an

excellent picture of the times in which they were written. The epistolary form has often been used for didactic purposes, as the epistles of St. Paul and the early Christian teachers, and for political purposes, as in the *Letters of Junius* (1769-72). Other famous collections are *Lord Chesterfield's Letters to his Son* (1774-1787), Sir Walter Scott's *Paul's Letters to his Kinsfolk* (1815), and *Tales of Malachi Malaguerther* (1826), and in more recent times the *Vallima Letters* (1895) of Robert Louis Stevenson. Swift's *Journal to Stella* (1768) is more in the nature of a diary, but his *Drapier's Letters* (1724) are a masterpiece of literary invective. Other famous letter-writers are Cicero, Seneca, Erasmus, Horace Walpole, Pope, Charles Lamb, Mme de Maintenon, Cowper, Jane Welsh Carlyle, and Byron. See G. E. Vulliamy, *English Letter Writers*, 1945.

Letters, or Signs, see ALPHABET; NUMERALS; PHONETICS.

Letters Missive are letters from the sovereign conveying permission or command to some particular person, thus differing from 'letters patent', which are addressed to the public. They are used generally for the nomination of a bishop, and are sent to the dean and chapter with the *comp. d'lire* (q.v.).

Letters of Attorney, see POWER OF ATTORNEY.

Letters Patent, see PATENTS.

Letter-wood, name given to the heartwood of *Brosimum Aubletii*, a species of Moraceæ found in Trinidad. It is chiefly used as a veneer.

Lettow-Vorbeck, Paul Emil von (b. 1870), Ger. general, b. at Saurlohn, in the Saar, eldest child of Gen. Paul Karl von L.-V. (Graduating at Berlin Univ. he was sent out as colonel to Ger. E. Africa in Jan. 1914 to command the colonial troops. During the war (see AFRICA, GERMAN EAST, FIRST WORLD WAR, CAMPAIGN IN) he showed the highest ability, and only surrendered on being informed of the armistice, at Chamberzi, Nov. 14, 1918. His *Reminiscences of East Africa* appeared in Eng. in 1920.

Lettres de Cachet (*lettres closes*) were blank 'letters' signed and sealed by the king of France and issued to governors of prisons. The insertion of a person's name therein was all that was necessary to secure committal to the Bastille or another prison. (Meetings of estates and other bodies were called by L. de C. also.) They were abolished in 1789, though Napoleon used them for a short time.

Lettres Portugaises, see ALCORAZO. MARIANNA.

Letts, see LATVIA.

Lettuce, valuable salad plant which can be produced for use on any day in the year. It originated from *Lactuca scariola*, a native of S. Europe. The cabbage L. is low and cabbage-like, the cos L. comes later in the season and is more crisp, erect, and compact, but these types are widely varied. L. is rich in vitamins (q.v.) and is also an important source of the iodine necessary in human diet for the formation of thyroxin in the thyroid gland.

Letzeburg, see LUXEMBOURG.

Leucadia, or Leukas, anoth. name of one of the Ionian Is., now called Santa Maura, lying off the coast of Acarnania, 50 m. S.W. of Corfu. It is about 20 m. long, with a greatest breadth of 8 m., and has an area of 110 sq. m. The surface rises in rugged limestone heights, from the chalky appearance of which the Is. takes its name of 'Whiteland.' The bold promontory (Cape Duralo) at the S. end of the Is. rises to 2000 ft., and is the legendary scene of 'Sappho's Leap' and the death of Artemisia, queen of Halicarnassus. The chief products are olive oil, currants, and wine. The cap., Amaxikhi, or Santa Maura, lies at the N.E. end. The land was colonised in the seventh century B.C. by the Corinthians, who made it an Is. by cutting a canal through the isthmus which joined it to the mainland. Prof. Dorpfeld identifies it with the Ithaca of the *Odyssey*. See P. Goessler, *Leukas-Ithaka*, 1904, and W. Dorpfeld, *All-Ithaka*, 1927.

Leucemia, see LEUCOCYTHÆMIA.

Leuchars, vil. and par. of Fife-shire, Scotland, 6 m. N.W. of St. Andrews, noted for its R.A.F. airfield. It has a church dating from the twelfth century with a Norman apse and chancel. Pop. 3000.

Leucine, or Aminoisocaproic Acid, (CH₃)₂CH·CH₂·CH(NH₂)COOH, substance found widely distributed in the animal juices, particularly in the pancreas. It is produced by the putrefaction of proteins, and may be prepared from proteins such as casein by hydrolysis.

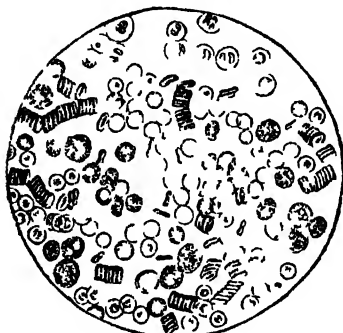
Leucippus (fl. sixth century B.C.), Gk. philosopher, the contemporary of Zeno and Anaxagoras, and the founder of the Atomistic theory afterwards developed by Democritus.

Leucite, rock-forming mineral, consisting of potassium and aluminium metasilicate, KAl(SiO₃)₂. The crystals often contain such minerals as olivine and augite, as well as other impurities. L. rocks are found widely distributed throughout the globe, especially in the form of lavas in the neighbourhood of Vesuvius and Rome. They are usually rocks which contain felspar but no quartz.

Leucocytes, see under LEUCOCYTOSIS.

Leucocythæmia, or Leucemia, disease characterised by an excessive number of leucocytes, or white corpuscles, in the blood. The enormous increase in the number of these cells resembles that found in cancerous growths. The acute form of lymphatic L. is generally fatal, and is characterised by anæmia, enlargement of the spleen and lymphatics, and softening of the bone-marrow. The chronic form, which is characterised by similar changes in the lymphatics but by a lesser degree of hypertrophy in the spleen, may last for two or three years. Myelogenous L., caused by disease in the bone-marrow, is nearly always chronic. There is no entirely satisfactory treatment for the disease, though good results sometimes follow the application of X-rays or radium to the long bones which contain the marrow and to the spleen. Splenectomy is sometimes tried, though with varying success. (See illustration, p. 404.)

Leucocytosis, increase in the number of white corpuscles above the average number contained in the blood. The white corpuscles or leucocytes act as destroyers of microbes that may have attacked the tissues. They are attracted to any portion of the body where such microbes are numerous, and the need for performance of their functions stimulates the production of leucocytes. It is therefore a symptom of some morbid condition where the production of leucocytes has been unduly stimulated. In normal health the number of leucocytes is from 5000 to 10,000 per cubic millimetre. There are five varieties: the polymorphonuclear cell derived from the bone marrow and constituting 70 per cent of the total number of colourless corpuscles; the



BLOOD FROM A CASE OF LEUCOCYTHAEMIA SHOWING INCREASE IN WHITE CORPUSCLES
Magnified 300 times

eosinophilic cell derived from bone marrow and forming 2 per cent of the whole; the lymphocyte derived from the lymphoid tissue and forming above 20 per cent of the whole; the monocyte, probably a later development of the lymphocyte, and forming 4 per cent of the whole; and the basophile, a cell rarely found in the blood of adults. The functions of the different varieties vary to a certain extent; they probably have varying capacities for attacking the different pathogenic organisms. *L.* is usually associated with an increase in the number of polymorphonuclear cells, although there are allied conditions in which the lymphocytes or the eosinophilic cells may be increased above the average. During the process of digestion and in the course of pregnancy the leucocytes are increased in number normally. After hæmorrhage, during inflammation, infectious diseases, and many toxic conditions varying degrees of *L.* occur. As it does not occur in such infectious diseases as influenza, measles, malaria, typhoid fever, it is possible to have a differential diagnosis on the extent of *L.* In typhus fever, for instance, it is very pronounced and it is an

important symptom in trichinosis, the disease caused by the parasite, *Trichina spiralis*, of the pig. The number of leucocytes in many cases bears a relation to the defensive power of the blood against bacillary invasion, and a steady fall in the quantity of leucocytes is a sign of danger in many diseases. When the number becomes excessive the condition is called leucocythæmia (*q.v.*) or leucæmia. An increase in the number of lymphocytes known as lymphocytosis is a similar condition of the cosmophilic cells is called cosmophilus. The latter condition is characteristic of some forms of insanity. The opposite condition to *L.*, that is, where there is marked absence of leucocytes is called leucopenia.

Leucol, name formerly applied to quinine or its isomer, isooquinoline ($C_{17}H_{19}N$). Both are obtained in the distillation of coal tar and occur in the fraction which lies over between 216° C. and 243° C. Isoquinoline is separated by converting the mixed base into the acid sulphates and subsequently decomposing the sulphate of isooquinoline with caustic solution.

Leucoma, opacity of the cornea or anterior transparent portion of the eye. Its outward appearance is a white patch presented by a firm, cartilaginous thickness to ground glass. According to the position and extent. Its origin may be a certain amount of distortion of vision is occasioned. The opacity is caused by inflammation resulting from injury or infection of the conjunctiva. If the inflammation is below the epithelial layer of the cornea a loss of tissue takes place and the place of the destroyed tissue is taken by a more connective tissue. After the inflammation has ceased the opacity may gradually decrease, but in many cases it persists and then tends to become permanent. Gentle massage of the eyeball may and the disappearance of the opacity may, but in general it is not advised to interfere much with the eye while any trace of inflammation remains. If the lens and retina are undamaged it is sometimes possible to remove the *L.* and to replace it with a graft of transparent cornea obtained from another person. *L.* is to be distinguished from hazy degeneration of the margin of the cornea which occurs in old people as a white opacity in that region.

Leutera, vil in I. coli, ancient Greece, 6 m. from Lichia, famous for the victory gained in its neighbourhood by the Theban under Epaminondas over the Spartans (371 B.C.).

Leuk (fr. Leuch-*la-Ville*), summer resort of Switzerland in the canton of the Valais on the r. b. of the Rhodé, 10 m. N. of Sion. At Leukerbad (Leuch-*les-Bains*) about 10 m. N. of the town, at an altitude of 4629 ft. are hot, saline chalybeate, and sulphurous springs, twenty-two in number. *L.* has now times been destroyed by avalanches, from which it is now protected by a strong embankment. Pop. 2200.

Leukas, see LEECADIA.

Leuthen, vil of Polish Silesia, 10 m. W. of Wrocław, famous for Frederick the

Great's brilliant victory over the Austrians in 1757. Pop 700. See J. Kautzen *Die Schlacht bei Leuthen*, 1901.

Leutholf, Hlob., see LEUTHOLF, JOI.

Leutschau., see LOOS.

Leutze, Emanuel (1816-68), German painter noted for his historical pictures. b. in Gmünd, Württemberg. From 1841 to 1859 he studied art at Düsseldorf (under Lessing), Munich, Venice, Rome and other places. He settled in America and painted some notable historical pictures and some portraits.

Leuven., see LOTUVEN.

Leuwenhoek., see LEUWENHOEK.

Leuzinite, mineral, classed by some geologists as a variety of halloysite. It is a hydrous silicate of alumina and is opaline and translucent.

Levallois-Perret, fin. of the Seine dept., Paris, a suburb of Paris. It has many of motor cars, chemical products and mechanical and electrical engineering. Pop. 11,600.

Levant (from the It. *di Levante* it rises) originally a hebr. as well as a name for the E. meeting the coastland of the Mediterranean from Egypt but now chiefly restricted to the Mediterranean coastland of Asia Minor and Syria. See 1. *Hebr. Levant*. Pop. 1,100,000. and 2. *Levant*. *See II. Levant*.

Levant Company, Eng. company which traded with the Levant from about 1599 to 1840. It was a company under a charter of 1591 which gave it monopoly of the trade with Constantinople and the Levant. It flourished for many years, but its trade was interfered with by the Turks.

Levanter, strong easterly wind prevalent in the W. end of the Mediterranean and in the S. Afr. an coast during the whole of the summer months.

Levant, ex. Couchant, hebr. term used when a wind blows from the E. or E. by N. which have been the prevailing winds for a not less than twenty-four hours. It is long enough to be down and return to bed (*couchant et levé*). The term is used for the right of a field owner to pasture (*Levant et couchant*) by day and by night has little or common practice.

Levee (fr. *lever*, to rise). 1. Morning ceremonial visit to the Emperor of such gentlemen as have the right of entry. The name arises from the fact that the visits were first inaugurated by the King of France who held these receptions in the dressing room. A *Levee* is distinguished from a "drawing room" or court in the land, inasmuch as only gentlemen attend the former. 2. Embankment built to prevent overflowing during floods. The most noteworthy system of Ls. is that of the Mississippi, which covers about 1500 m. The Ls. are controlled by the various bordering states and by a Federal Mississippi B. Commission.

Levee en Masse, see under LEVEE.

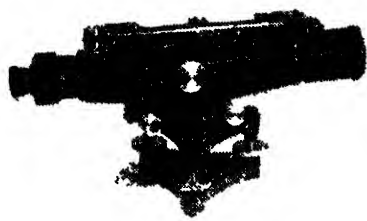
Level, word with sev. meanings— one of which may indicate a small instrument or workman's tool for testing the horizontality of a surface, or a more complicated

instrument for obtaining the direction of a line parallel to the horizon, or a still more complicated instrument, used by surveyors and engineers, with many refinements, for determining with great accuracy the relative 'heights' or distances of different parts of the earth's surface from the earth's centre, using, as a matter of practical convenience, an agreed conventional datum, usually that of 'mean sea level' (*q.v.*). The simplest form of L. is the water L., which consists of a length of metal glass, or rubber tubing with each of its two ends bent up at right angles and fitted with a piece of glass tubing—the whole being filled with water, preferably coloured blue or red, and supported as required. The surface of the water will always be at the same level, i.e. in a horizontal line at each end, irrespective of the intermediate divergencies (if any) of the main tube.

The spirit L. is much more commonly used, and is more convenient and accurate. This consists of a glass tube slightly convex on the upper side nearly filled with alcohol and closed at both ends in cases of brass or wood, so that it has a plano and a curve on which it may rest. If the underside of the casing is parallel to a tangent to the centre of the bubble tube the casing will be horizontal. The bubble or air left represents the true surface of the liquid and is at the highest position possible which it can assume in the tube when the surface on which it rests is horizontal. The quantity of spirit L. is directly proportional to the radius of curvature of the bubble tube. A bubble is sensitive in proportion to its length, i.e. the bubble being more than 1 in. in a 10 in. small inches may be varied by 1/1000 of an inch. The bubble is held in position by a piece of rubber tubing, and is held in position by a piece of rubber tubing, and is held in position by a piece of rubber tubing. For surveying purposes the L. is much used in combination with a spirit level. A surveying instrument in which the L. is used in combination with a spirit level is a surveying level. The L. is a telescope in which the L. is mounted horizontally on a tripod. The instrument is somewhat in construction to the alidade; the bubble by which the instrument is brought into position at right angles to the axis of the earth is usually placed at the top of the telescope. But sometimes at the side and viewed through a narrow, hinged mirror. In all telescopic levels, it is necessary to have a reference mark to which all observations can be referred. This consists of a glass diaphragm in the true plane of the instrument, having vertical and cross lines engraved thereon. To obtain the difference of L. between two points A and B the levelling instrument is placed at a suitable place between the points, the heights at which the horizontal line of sight is cut off by a graduated levelling staff held at A and B are read off, and the difference gives the difference of L. between A and B.

The many types of surveyors and engineers' Ls. may be divided into three categories, namely, (1) dumpy Ls. (2)

'Y'-Ls., and (3) other reversible Ls., the last class including precision Ls. The dumpy L. has been deservedly popular since Gravatt introduced this form in 1848, for its traditional simplicity and stability. Amer. and continental surveyors have long favoured the Y-L., in which the telescope is removable and reversible end for end, and can be rotated also about its optical axis. The various loose parts were a serious drawback, but the Kern L. is still used considerably in America. Among reversible Ls. may be cited those of Cushing & Cooke, and the Swiss, Heinrich Wild, who developed the well-known Zeiss L. Each of the well-known Eng. makers has made advances in details of construction in surveying instru-



W. F. Stanley & Co. Ltd

12-IN. ENGINEER'S PRECISION LEVEL

ments, so that it is impossible to describe any one instrument as the 'best' for all purposes, nor is it possible to illustrate them all. The illustration above is a dumpy L., the optical axis of which is permanently fixed at right angles to the vertical axis. When the axis of the instrument is correctly verticalised by means of the levelling screws, if it is revolved its optical axis or line of collimation will describe a L. plane. The telescope body and centre are of hard gun-metal, of great strength and rigidity, in a single casting. The telescope is internal focusing. The long spirit-L. is of a sensitivity of 20 sec. per one-tenth inch and fitted in a special manner to avoid strain and distortion from changes of temp. The levelling arrangement is three-screw, each screw fitted with dust-covers, etc. The quick-setting arrangement is fitted with patent ball joint and setting index, and saves much time in setting up and wear on the screws. The glass diaphragms are engraved, of various patterns, with stadia for measuring distances. The tripod stand usually supplied is the solid round-form mahogany, with specially constructed head for hard wear. In the precision or tilting-L., the line of collimation is adjustable with respect to the vertical axis and the instrument has to be levelled by a special individual screw at every sight. For convenience the bubble tube is fixed at the side of the telescope and can be read either with a hinged

mirror or with a special prism reading device in which views of the opposite ends of the bubble are brought together in coincidence. These views of the bubble only exactly coincide when the instrument is correctly levelled. This device eliminates all parallax and makes a more accurate reading possible. The levelling screw of this instrument is so graduated as a gradient screw for setting out gradients. One complete turn of the gradienter screw tilts the telescope through the stadia intercept, i.e. 100. The drum is divided into 100 parts, giving a reading of 100 direct, and by estimation 0.1. The gradienter screw can also be used for the measurement of distances which are too great to be measured with the diaphragm stadia.

Where S = length of staff traversed by the centre line of the diaphragm,
Distance $= 100 \times S$

Drum revolutions

See also SURVEYING AND LEVELLING

Levellers, ultra-republican political party in England during the Civil war. Powerful in the Parliament during the early years of the Commonwealth, they advanced their views on religious toleration and democratic government in numerous pamphlets, the most noteworthy being by their leader John Lilburne (*q.v.*). The *Agreement of the People* is a noteworthy essay in democracy, and foreshadows many later developments in Eng. government. They were dissatisfied with the autocratic form of government estab. by Cromwell after the death of Charles I., and in 1649 broke out into a mutiny, suppressed by Fairfax. See T. C. Pease, *The Leveller Movement*, 1916; G. P. Gooch, *English Democratic Ideas in the Seventeenth Century*, 2nd ed., 1927; A. S. P. Woodhouse (ed.), *Puritanism and Liberty*, 1938; W. Haller and G. Davies (eds.), *The Leveller Tracts, 1641-1651*, 1944; W. Schenk, *The Concern for Social Justice in the Puritan Revolution*, 1948.

Levelling, see SURVEYING AND LEVELLING.

Leven, Earl of, see LESLIE, ALEXANDER.

Leven, tn. at the mouth of the L. of Forth, Fife-shire, Scotland, 9 m. N.E. of Kinkaidy. It is a health resort and has fine golf links. The chief industries are rope-making, flax-spinning, and linen-weaving, and there are breweries, foundries, and collieries. The earl of L. takes his title from this tn. Pop. 7000.

Leven, Loch: 1. Lake in the co. of Kinross, Scotland, has an area of 6½ sq. m., and is 11 m. in circuit. The surplus waters are discharged by the R. L. It contains seven is., on one of which, Castle Is., are the ruins of L. L. Castle in which Mary Queen of Scots was imprisoned (1567-68). A causeway just under water connects the is. with the W. bank. St. Serf's, the largest is., contains the ruins of an old priory. It has famous trout fisheries. 2. Sea-loch forming the boundary between Argyll-shire (S.) and Inverness-shire (N.), Scotland, between Bullachullish (*q.v.*) and Kinlochleven.

Levenshulme, tn. in S.E. of Lancashire,

England, 3 m. from Manchester. The chief manufs. are cotton and woollen goods and machinery, and there are calico-printing factories and bleaching works. Pop. 22,000.

Lever, Charles James (1806-72), Eng. novelist, b. in Dublin of Eng. parents, his father being an architect. He was educated privately and at Trinity College, Dublin, where he took a degree in medicine. He forsook medicine for literature when, in 1837, his first novel *Harry Lorrequer* appeared serially in the *Dublin University Magazine* and was immediately successful. He later became editor of the magazine, and gathered round him the Irish wits and writers of the time. He is chiefly remembered for his rollicking tales of Irish life, such as *Jack Hinton* (1834), *Charles O'Malley* (which is also concerned with the Peninsular war, 1840), and *Arthur O'Leary* (1844). In later life he lived on the Continent, was Brit. consul at Spezia, and died while at Trieste.

Lever, Sir William Hesketh, see LEVERHULME, VISCOUNT.

Lever: 1. Great, tn. in Lancashire, 14 m. S.E. of Bolton, has coal- and iron-mines, and manufs. chemicals. Pop. 5000. 2. Little, tn. 3 m. S.W. of Bolton, Lancashire, has cotton mills, bleaching yards, and collieries. Pop. 5000.

Lever, rigid bar which turns about a point called the fulcrum. The parts of the bar on each side of the fulcrum are called the arms. The principle of the lever was estab. by Archimedes. By applying force at one point on the L., a weight is raised or resistance overcome at another point. There are three classes of Ls., according to the position of the fulcrum in regard to the power and weight: (1) Where the fulcrum is between the power and weight; to this class belong the crow-bar, a poker in the bars of a grate, the handle of a pump, etc. The bascules of the Tower Bridge are of this class, the visible portion representing an arm of the L. (2) Where the weight is in the middle; to this class belong a wheelbarrow, nutcrackers (a double L.), etc. (3) Where the power is in the middle; to this class belong the treadle of a loom, a pair of tongs, etc. In a L. the power multiplied by its arm, or distance from fulcrum, is equal to the weight multiplied by the arm. If the force applied to the L. is less than the resistance of the weight, the L. is said to work at a mechanical advantage, if vice versa, at a mechanical disadvantage. Ls. of the first class may work either at an advantage or disadvantage, or the force may be exactly equal to the weight. Ls. of the second class always work at an advantage, and those of the third class always at a disadvantage, though there is the advantage in the last class that the object moved is moved through a greater space than the power. In bent Ls. the perpendicular distance from the fulcrum to the meeting-place of the lines of direction of the forces is taken for calculation. Compound Ls. are those in which the short arm of one acts on the longer arm of another, as in drawbridges, testing-machines, etc. The three types of Ls. above de-

scribed abound in all mechanism, though very often in a disguised form.

Leverhulme, Sir William Hesketh Lever, first Viscount (1851-1925), founder of Port Sunlight, b. Sept. 19 at Bolton, Lancashire, a son of a grocer. L. extended his father's business to Wigan in 1877. When soapmakers tried to raise the wholesale price he was paying them for the soap he was wrapping and selling as 'Sunlight Soap,' he bought soap works at Warrington, engaged an experienced soapmaker (called Winsor) as his servant there, and devoted himself to making, advertising, and marketing his own soap. He prospered so fast that his enlarged sphere, named Port Sunlight, on the Wirral peninsula, was inaugurated in 1889. There he began what he called prosperity sharing, in lieu of profit sharing, that is to say, the employee was housed on the estate at an uneconomically low rent and had other like payments in kind, and was thus bound to the interests of the firm of Lever Brothers (James Darcy L. was the brother in partnership). After many attempts L. entered Parliament in 1906 as Liberal member for Wirral. But he did not stand again, and ceased to be M.P. in 1910. He bought the lease of Stalford (now Lancaster) House in 1913 and presented it to the nation for the London Museum. Ennobled in 1917, he took the title of Leverhulme. In 1918-20 he acquired the rs. of Lewis-with-Harris and tried developments in Lewis that did not succeed; he yielded much of his property there to the inhab. See life by his son, the second Lord L., 1927.

Leverkusen, tn. of the Rhineland, Germany, N. of Cologne, noted for chemical industries, iron works, and the manuf. of machinery and textiles. Pop. 50,000.

Leverrier, Urbain Jean Joseph (1811-77), Fr. astronomer, b. at St. L6, Normandy. In 1846 he was admitted to the Academy. His most notable work was the inference of the existence of the planet Neptune, and his calculation of the point at which it would become visible. It was discovered in the position by the Ger. astronomer Galle. In 1849 he was elected to the Legislative Assembly and was made a senator by Louis Napoleon in 1852. In 1854 he became director of the observatory of Paris.

Leveson-Gower, Francis, see ELLESMERE, EARL OF.

Leveson-Gower, George, see GRANVILLE, EARL OF.

Leviathan, name of a reptile that occurs five times in the O.T., viz. Ps. civ. 25-6, Ps. lxxiv. 11, Isa. xlvii. 1, Isa. li. 9, Job xli. In the last place a description is given. In all cases but that in Ps. civ. the term is usually explained as referring to the crocodile, and, this animal being known to the Israelites chiefly from the crocodiles of the Nile, it was often used as the symbol of Egypt (Is. xl.). Some have seen in L. and Behemoth legendary creatures combined from various Egyptian and Babylonian myths. (See illustration, p. 108.)

'Leviathan,' name of, at one time, one of the world's largest ships formerly

called the *Laterland* and built in Germany in 1914. It was bought by U.S. Lines in 1922 and operated as *President Harding* but proved uneconomical. In 1939 a Belgian company purchased her. As the *Ville de Bruges* she was sunk by a Ger submarine in Feb 1940. Her tonnage was 29 957 dimensions 907 x 100 x 53 ft (5 ft shorter than the Brit *Majestic*, and if measured according to Brit mercantile rules the tonnage would be 51,252 while that of the *Majestic* if measured by Amer rules would be 61.06 instead of 56 621). Also the name of a Brit light fleet carrier, launched in 1941, of 15 000 tons displacement and carrying forty four aircraft.

Levico, tn in the Tyrol Austria 10 m S.E. of Frient. It is much frequented for its mineral springs. Pop 7000.



BIHEMOTH AND LEVIATHAN

William Blake's concept of the illustration of the Book of Job

Levin, prin tn of lower Manawatu dist., N Is New Zealand situated on the W coast 59 m N of Wellington by rail. It is the centre of a flourishing dairy industry. The neighbouring Tararua mts & numerous trout streams and rivers and bathing beaches make it a well known sports centre. The Hotoewenua College is the prin educational institution. Pop 4000.

Levis, or Point Levi, tn cap of L co., Quebec Canada, on the S shore of the St Lawrence. It has a ferry and a rail road bridge to Quebec. It is fortified has fine docks great shipping trade and considerable manufs., including iron ship-building and saw mills. Pop 11 900.

Levison, Wilhelm (1876-1947), Ger historian & authority on the hist of N.W. Europe, particularly of N England during the seventh and eighth centuries. Formerly prof of medieval hist at Bonn Univ, he was dismissed under the National Socialist regime and came to England in 1933 to continue his studies at Durham Univ., of which he was elected honorary fellow in 1939. The Ford lectures delivered by him at Oxford Univ in 1913 were pub in 1946 with the title *England*

and the Continent of Europe in the Eighth Century. A comprehensive selection from his works in Ger, Fr, and Eng was pub in Düsseldorf in 1947 entitled *499 Rheinischer und Frankischer Frühzeit*. L was also a Lat scholar, a language in which he composed many of his writings.

Levita, Elias (1485-1549) celebrated rabbi, philologist, critic and poet. He spent most of his life in Rome and Venice, and had a wide circle of friends there. His works are on the Psalms, Job, Proverbs, Amos & Lamentations and Lamentation dictionary and a Heb grammar. See also by J Levy.

Levites, Israelitish tribe whose origin is traced from Levi the son of Jacob and Leah. Levi is considered by some critics as merely the ponum of the priestly caste and some have entirely denied the existence of the tribe as a tribe. On account of the attack made on Simeon by Simeon and Levi these two tribes were not given a portion of the territory in Canaan, but were scattered throughout the country. The hist of the tribe is complicated by the gradual development that took place among the Levites in the function of an exclusive priesthood and a single sanctuary. Deuteronomy (X, 8 and XXI, 17) speaks of the separation of the tribe from the rest of the tribes for the work of bearing the ark for the ministry of Yahweh and for the dealing of controversies. But the lateness of this view is shown by the contemporary injunction that the Israelites should erect a single sanctuary on taking possession of Canaan. The Priestly Code in Leviticus and Numbers distinguishes the tribe from the family of Aaron in particular. These last constituted the priesthood while the Levites did to them and had charge of the sacred ornaments. They were not allowed to offer sacrifice.

Leviticus, the third book of the Pentateuch, belongs almost entirely to the stratum known as P (see HEBREW). It is concerned chiefly with legislation regarding the priestly functions. Chapters I-VII deal with the Laws of Sacrifice and with certain priestly regulations. Chapters VIII-XI deal with the consecration of priests and Chapters XII-XVI with the Laws of Purification and Atonement. The section consisting of Chapters XVII-XXVI is known as the Law of Holiness and stands apart from the preceding chapter and is derived from a different source probably another body of priestly legislation. It is marked off not only by its differences in style but also by its rigid and frequent insistence on the necessity of holiness.

Levkas, see LEUCADIA

Levkosia, or **Leikosia**, see NIOBSIA

Levuka, tn on Ovalau Is., was until 1882 the cap of the Fiji Is (qv).

Levy, Hermann Joachim (1881-1949), Ger economist and sociologist, b in Berlin, became a naturalised Brit subject, 1946. Son of a retired textile manufacturer, he was educated at Munich Univ where he took up the study of economics. After lecturing at Halle for some years he became a prof at Heidel-

berg Univ. During the First World War he worked in the Ger. Admiralty, but after the war returned to economics, paying special attention to industrial cartellisation. In 1918 he became prof. at the Technische Hochschule, Berlin. Essentially a lover of peace L.'s life in Germany became ever more difficult, and in 1935 he came to England, where he soon estab. himself as a leading economist in industrial assurance. His first pub. was *Large and Small Firms* (1911); his next *Economic Liberalism* (1913). His *Industrial Germany* (1935) was an acute analysis of collectivism and monopoly as opposed to free competition, and in *The New Industrial System* (1936) he gave a survey of the tendency in Britain towards large industrial units. *Industrial Insurance*, pub. in collaboration with Sir Arnold Wilson in 1937, attacked the companies and societies engaged in industrial insurance, advocating strongly the extension of National Health Insurance arrangements to cover death benefits, while in *National Health Insurance* (1945) he proposed alternatives to the proposals of the Beveridge Report. In his *Retail Trade Associations* (1942) and *The Shops of Britain* (1948) he argued for state control of both industrial combinations, and retail trade associations.

Levy (fr. *leve*, from *lever*; Lat. *levare*, to raise), collection of a body of men for compulsory military or other service in times of national emergency. The L. is usually restricted to class, e.g. to men between certain ages, but in times of great danger a *levée en masse* may be enforced, when all able-bodied men are required to serve in person, either for purposes of defence or offence. The word L. is also used as a synonym for *raising taxes*.

Lévy-Bruhl, Lucien (1857-1939), Fr. philosopher, b. in Paris. Educated at the Lycée Charlemagne and at the École normale supérieure, he became a lecturer at the latter institution and then at the Sorbonne (1899). He was later a prof. at the Univ. of Paris. His works include *L'idée de responsabilité* (1884); *L'Allemagne depuis Leibnitz* (1890); *History of Modern Philosophy in France* (Eng. trans., 1899); *La Philosophie d'Auguste Comte* (1900); *Les Fonctions mentales dans les sociétés inférieures* (1910); *La Mentalité primitive* (1921); *L'Âme primitive* (1927), and *Le Surnaturel et la nature dans la mentalité primitive* (1931).

Levy-Lawson, Sir Edward, and Sir Harry Lawson Webster, see BURNHAM.

Lewanika (c. 1840-1916), paramount chief of the Barotse of N. Rhodesia from 1875 to 1916. His real name was Robosi, the 'escaped one,' because he was b. when his mother was fleeing from the Makololo; 'Lewanika' was merely an adopted name. He was of distinguished descent, being a grandson of Marumbwa, a famous Barotse chief. He succeeded to, or rather usurped, a kingdom comprising some twenty large African tribes, to which the Portuguese governors of Angola to the N. of Barotseland had given the name Marotse-Mambunda. L. was in exile when, heading

a revolution against his cousin King Sebeke, he obtained the throne and, finding that the cap. Sebeke was still a storm centre of rival factions, set up his seat of gov. at Lealui on the Zambezi in the N. Among the chief influences for good in his career as by far the most successful of Barotseland's rulers was the work of such Protestant missionaries as François Collard and Arnot. But L. was by nature a lover of the arts of peace and a social reformer even though he was also a doughty tribal fighter and a fine hunter. In 1885 he was ousted from the throne through the treachery of Mathaha, a counsellor who had poisoned L.'s mind against his supporters and so forfeited their confidence. Mathaha now put Tatira, a youth, on the throne as a puppet king and wielded the chief power himself. But L. returned at the head of an army and, in a battle in which Mathaha and most of the chiefs on both sides were killed, regained his throne. He seems to have pardoned some of the rebels, but Tatira and a great many others, of both sexes, were put to death. His reforming zeal was shown in the abolition, by 1893, of trial by ordeal and witchcraft at his cap. Slavery, however, was only stamped out after L. had sued for and obtained Brit. protection. Realising that he would be always beset by enemies both at home and abroad, L. made a treaty with the Brit. representatives, but the first Brit. resident commissioner (Major—afterwards Sir—Robert Coryndon, a member of Rhodes's staff) did not arrive until seven years later (1897). In 1902 L., accompanied by Col. Colin Harding, who had organised the Barotse police, visited England for the coronation of Edward VII. He was quick to appreciate the difference between those who only received him as a king and those who welcomed him as a friend. What unquestionably impressed him on this visit was to see 'what respect there was for God and His Law,' and though L. never actually declared himself a Christian he was by nature a devout man and allowed Lilia, his son and successor, to be baptised as a Christian. L. and his people were intensely loyal to the allied cause in the First World War, but the strain of the time adversely affected his declining health and he died on Feb. 4, 1916, his burial being conducted with immense pomp, according to all the Barotse traditions. See H. Marshall Hole, *The Passing of the Black Kings*, 1932; Lt.-Col. C. Harding, *Far Bugles*, 1932; and C. W. Mackintosh, *Lewanika*, 1942.

Lewes, George Henry (1817-78), Eng. author, b. in London, began to contribute to the *Edinburgh* and *Quarterly* reviews in 1840, and continued to do so for many years. He pub. a *Biographical History of Philosophy* in 1845-46, and in 1855 brought out his *Life of Goethe*, which became a standard authority on 'the subject both in England and in Germany. His *Physiology of Common Life* appeared in 1859-60 and *Problems of Life and Mind* in 1878. For a short time (1865-66) he was editor of the *Fortnightly Review*. In 1861 he met Mary Ann Evans, later famous under

the pseudonym of 'George Elliot,' with whom he lived until his death.

Lewes, municipal bor. and the cap. of the co. of Sussex, England, situated on the navigable Ouse, 41 m. S. of London. It is of great historical importance, Henry III. having been imprisoned by Simon de Montfort in the castle, the ruins of which still exist. There is a sixteenth-century grammar school. Pop. 11,900.

Lewes, Miss of. The proclamation by Henry III. after his defeat at Lewes (1264), that he would abide by the Provisions of Oxford and would place himself under the control of a privy council whom Parliament should elect.

Lewin, William Charles James, see TERRIS, WILLIAM.

Lewis, Alun (1915-44), Welsh poet, b. near Aberdare, and educated at Cowbridge Grammar School, the Univ. College of Wales, and Manchester Univ. He entered the army in 1940 and was commissioned in the S. Wales Borderers with which regiment he served in India and Burma. He was accidentally killed while in Burma in March 1944. His austere sense of vocation as a writer and his disciplined style of writing marked him out as a poet of great promise, as shown by his first pub. vol. of poems, *Raiders' Dawn* (1942). This was followed by *Ha! Ha! Among the Trumpets*, a vol. prepared by him and pub. posthumously in 1945 with an introduction by Robert Graves. L.'s poetry is most successful in its realistic and humane approach to life, tempered with a fine idealism, and formed with integrity and discipline. His sense of realism also found expression in a notable collection of short stories, *The Last Inspection* (1943). A number of his letters from India were pub. in 1919, together with six short stories under the title *In the Green Tree*.

Lewis, Cecil Day (b. 1904), Eng. poet, was educated at Sherborne and Wadham College, Oxford. He was for eight years a schoolmaster, and worked in the Ministry of Information during the Second World War. Before the war he concentrated upon a technique which was much influenced by Irish ballads and by Thomas Hardy, and in which he wrote some pastoral love poems of a high standard. Some of his best introspective poetry was contained in *O Dreams, O Destinations*, a sequence of sonnets on childhood. The war proved a period of reorientation in which he, with contemporaries like MacNeice and Spender, suffering from uncertainty as to the purity of the ideals for which it was fought, called upon, in his own words, to 'defend the bad against the worse.' A similar uncertainty about his own feelings, as in the series of poems inspired by his service in the Home Guard, inevitably meant a loss of power, though they include much fine writing. His works include *A Time to Dance* (1935); *Collected Poems, 1929-33* (1938); *A Hope for Poetry* (1938); *An Anatomy of Oxford* (with C. Kenby, editor, 1938); *Overture to Death* (1938); *Poems in Wartime* (1940); trans. of Virgil's *Georgics* (1940); *Word Over All* (1943);

Poetry for You (1945); *The Poetic Image* (1947); *Poems, 1913-47, 1948*; and *Collected Poems, 1929-38* (1949).

Lewis, Clive Staples (pseudonym of Clive Hamilton) (b. 1898), son of a Belfast solicitor, was educated at Malvern College, privately, and at Univ. College, Oxford, where he became a lecturer in 1924. In 1925 he was elected fellow and tutor of Magdalen College, Oxford. The awakened interest in religion and philosophy is reflected in his works: his *Pilgrim's Regress* (1935) is an allegorical apology for Christianity, reason, and romanticism, and his *Allegory of Love* (1936) a study in medieval tradition. *Out of the Silent Planet* and *A Preface to Paradise Lost* followed these in 1938 and 1942; but his outstanding book is *The Screwtape Letters* (1942), in which again, through the medium of allegory, he exposes the shams and follies of this age. 'Screwtop' is the devil's advocate who instructs his nephew, Wormwood, in the art of leading human beings into temptation and claiming them from Our Father Below. Wormwood, fixing on a convert to the Christian faith, tempts him at all points. The victim meets superficially intellectual people, witty sceptics who flatter his vanity; he falls in love only to find his attention wanders during prayer. At the close of this parable he displays unconscious heroism in an air raid and thus passes beyond the tempter to find himself in heaven. In the course of his parable L. restates the fundamental truths of religion by showing them in reverse and thus exposing false ideas, while at the same time he delivers attacks on current fashions in so-called Christian doctrine, such as 'the historical point of view.' The book is notable for its originality and wisdom. As an allegory it succeeds in conveying the basic truth about the nature of goodness, the meaning of worship, and the relationship between God and man. In an age of materialism and world wars L.'s works are a valuable contribution to religious thought besides making clear the essentials of Christian philosophy. Other later works by L. include *The Personal Heresy* (with E. M. W. Tillard, 1939); *The Problem of Pain* (1940); *Christian Behaviour* (1943); *The Great Divorce* (1945); and *Warbles* (1947).

Lewis, Dominic Bevan Wyndham (b. 1891), Welsh writer. As a young man he was intended for the law, but his career in this direction was interrupted by the First World War. He served with the Infantry in France and Macedonia, and was invalided out in 1918. He decided to enter journalism, and in 1919 joined the staff of the *Daily Express*, his contributions to which made his reputation as a satirically witty writer and deserving a place in the line of great Eng. humorists. He left the *Daily Express* in 1924 and has since written for the *Daily Mail*, the *Sunday Referee*, and other papers. In recent years he has also contributed to the *New Chronicle* under the pseudonym of 'Timothy Shy.' In addition to his humorous writings, L. is a Fr. scholar and historian, having pub. studies of François

Villon (1928) and Ronsard (1914), also biographies of Louis XI, of France (*King Spider*, 1930) and of Charles V. (*Emperor of the West*, 1932). His essays and occasional writings have been collected in a number of vols., including *A London Farrago* (1922); *At the Sign of the Blue Moon* (1921); *At the Blue Moon Again* (1925); and *On Strawn and Other Conceits* (1927). He trans. Burchey d'Aureville's *Anatomy of Dandyism* in 1928, and in collaboration with Charles Lee compiled an anthology of 'bad verse,' entitled *The Stuffed Owl* (1930).

Lewis, Sir George Cornwall, second Baronet (1806-63), Eng. statesman. From 1855 to 1858 he was chancellor of the exchequer, and in the following year became home secretary (1859-61), and then secretary of state for war (1861-63), which latter office he accepted against his will. He was editor of the *Edinburgh Review* from 1852 until 1855, and he was the author of many books, the most valuable of which is *Essays on the Administration of Great Britain from 1783 to 1839* (1861). His *Letters* were ed. in 1870 by his brother Gilbert, who succeeded him in the baronetcy.

Lewis, Sir George Henry (1.3. 1911), Eng. solicitor of Jewish extraction, b. at Holborn. He became a member of the firm of L. & L. He soon distinguished himself as an advocate in police court cases, and the reputation he obtained soon made the firm famous. In almost every important case he was consulted by one side or the other, and he soon became more distinguished for the cases he kept out of court than for those he fought. He was a personal friend of King Edward VII. and a popular figure in general society.

Lewis, John Llewellyn (b. 1880), Amer. labour leader, b. at Lucas, Iowa, and educated at public schools. Between 1909 and 1917 he was active in promoting the United Mine Workers of America and the Amer. Federation of Labour, and was elected president of the United Mine Workers' Union in 1920. Founder and leader of the Congress of Industrial Organizations, he organised mass unions in place of the more restricted 'craft unions' of the older system. In the presidential election of 1911 he urged Amer. labour to support Willkie, declaring his intention of resigning if Roosevelt were re-elected, his assumption being that Roosevelt was leading the country into war. The result was that he split the ranks of the C.I.O. and ensured Roosevelt's return in triumph. He accordingly resigned from the presidency of the C.I.O., but continued to exercise a strong influence on Amer. labour as president of the Mine Workers' Union.

Lewis, Matthew Gregory (1775-1818), Eng. author, b. in London, was attaché to the Brit. embassy at The Hague in 1791, and in the following year pub. *The Monk*, which attracted much attention and made its author famous. He wrote plays and poems, and his *Castle Spectre* ran at Drury Lane for sixty nights. His *Life and Correspondence* was pub. in 1839.

Lewis, Meriwether (1771-1809), Amer. explorer, b. in Virginia; was the first

(with Wm. Clark) to explore the Amer. continent from St. Louis to the mouth of the Columbia R. in the Pacific (1804-6). See O. L. Wheeler, *The Trail of Lewis and Clark*, 1901.

Lewis, Sinclair (b. 1885), Amer. author, b. at Sauk Centre, Minnesota. Graduating from Yale Univ. in 1907, he worked for a time as a newspaper reporter and then in various editorial capacities with some Amer. book-publishing firms. In 1914 appeared his first novel, *Our Mr. Wrenn*, followed by a number of others, none of which had any marked success. But in 1920 there appeared his *Main Street*, which rapidly became a 'best seller.' It was recognised that here was a new force in Amer. literature, a satirist of the first order, who saw his country men with clear eyes. The book brought in more money to the fortunate author than he ever dreamed possible, and from then on he felt free to do the work he was all along assured was in him. In 1922 appeared his *Babbalanza*, which gave Amer. a new term, one with which to describe the self-satisfied Rotarian type of Amer. business man. *Martin Arrowsmith*, a picture of the medical profession, appeared in 1921. In 1927 appeared his *Elmer Gantry*, a savage satirical picture of the professional religious revivalists. *Dodsworth* (1929) was the fruit of his numerous trips to Europe. L.'s position in literature was consolidated when, in 1931, he was awarded the Nobel prize. His other novels include *Ann Packers* (1933); *It Can't Happen Here* (1935); *The Prodigious Parrot* (1938); *Bethel Merridew* (1910); *Godson Plunish* (1913); *Cass Timberland* (1915); *Kingsblood Royal* (1918); and *The God-Sacker* (1919). See study by C. van Doren, 1933.

Lewis, Windham (b. 1884), Eng. painter and author, b. in America and educated at Rugby and in the Slade School. As an artist he achieved fame as the leader of a school of abstract painting, known as Vorticism, and founded and ed. a periodical in support of the movement entitled *Blast*. His work is represented in the Victoria and Albert Museum. His chief novels include *Tarr* (1918) and *The Apes of God* (1930). He rejects psychological analysis in favour of a series of satirical grotesques and a simplified exteriority, but he is inclined to inflate his language in an attempt to achieve massiveness, while his conception of satire, lacking the positive standards of a Swift or a Rabelais, tends to become the expression of personal exasperation. Other books are *The Art of Being Ruled* (1926); *Palface* (1929); *Hitler* (1931); *Snooby Baronet* (1932); *The Revenge for Love* (1937); *Blasting and Bombardiering* (1937); *Count Your Dead* (1937); *The Mysterious Mr. Kull* (1938); and *The Hitler Cult* (1939).

Lewis & Co., John see JOHN LEWIS PARTNERSHIP.

Lewis, or Lewis-with-Harris, northernmost and largest is. of the Outer Hebrides, off the W. coast of Scotland, from which it is separated by the Minch, 30 m. wide. Length, N. to S., 60 m.; greatest breadth,

30 m area 770 sq m. Lochs Reservoir and Scutworth divide it into 1 or the N and Harris on the S. The coast is much indented, having Loch Finisort and Broad Bay on the E and Loch Port on the W, while on the N the headland of the Butt of Lewis rises to 80 ft. Much of the surface is rugged and two peaks, Meallaval and Lu Mor, reach 1700 ft, but large tracts are swampy, and there is much peat and wet forest remains. There are many Druidic remains and ruined forts. Chief industries are cattle breeding, fishing and kelp making and the weaving of

as that of the Hotchkiss gun. The wear on the barrel through over heating and the rush of gas which forces the bullet up the barrel is great and a cooling system is provided by means of flanges radiating from the barrel and enclosed in a tubular cover.

Lewisham, suburb of London and a port and metropolitan borough since 1888, situated in Kent, 6 m S S E of Charing Cross. It returns three members to Parliament. Pop. 219,900.

Lewisite, $\text{C}_2\text{Cl}_4\text{O}_2$, chlorovinyldichloroarsine ($\text{ClCH}=\text{CHAsCl}_2$) a powerfully vesicant



Figure 1. Lewis and Clark Island

LEWIS GUN, LIGHT PORT, 1.5 INCHES

Harris tweed. Only 5000000 lbs are grown. Snowy is the only 1.5 in. Lewis Gun, invented in 1841, in 1841-1842 when Lord Leverhulme built it with the idea of developing it as a weapon, but the scheme was abandoned.

Lewis Gun, light port 1.5 in. gun, introduced into the British Army in the First World War and used as an infantry weapon. Like the Hotchkiss gun it is an automatic firearm, and the intensity of fire is its primary function. Continuity of fire is controlled by attaching the striker to some member of the moving parts, the completion of whose forward movement is properly timed. The bullet is fired by the striker passing through a hole in the face of the bolt. The gun is fed by a circular magazine fixed horizontally over the mechanism and holding forty-seven rounds. The weight of the gun (without mounting) is 26 lb., about the same

as that of the Hotchkiss gun. The wear on the barrel through over heating and the rush of gas which forces the bullet up the barrel is great and a cooling system is provided by means of flanges radiating from the barrel and enclosed in a tubular cover.

Lewis River (USA) see Snake River

Lewiston 1 City of Androscoggin co, Maine, USA, on Androscoggin R., opposite Auburn. The river here falls about 60 ft, affording water power used in the manufacture of cotton, woollens, and shoes. Pop. 8,000. 2 Co. seat of Nez Perce co, Idaho, USA, at the confluence of Snake and Clearwater Rrs., 30 m S of Moscow. Pop. 10,000.

Lewistown, co. seat of Mifflin co., Pennsylvania, USA, on Juniata R., 14 m N W of Harrisburg. Pop. 13,000.

Lex Doi, see COLLAGEN

Lexicon, see DICTIONARY

Lexington 1 Co. seat of Fayette co., Kentucky, USA, 75 m S E of Louisville.

villo. There are manufs. of carriages, bagging, tobacco, liquors, flour, etc., and the tn. contains Kentucky Univ. Pop. 49,300. 2. Tn. of Middlesex co., Massachusetts, U.S.A., 11 m. N.W. of Boston. Famous as the place in which the first shot of the Amer. Revolution was fired. Pop. 13,100. 3. Co. seat of Lafayette co., Missouri, U.S.A., on Missouri R., 38 m. N.E. of Kansas city. The Wentworth Military Academy is here. Pop. 3,300.

Lex Loci, phrase used in private international law on the extraterritorial application of legal rights (*lex loci*) to denote the principle in which the law of one country is applied to decide cases tried by the tribunals of another country. *L. l. rei sita* denotes the principle on which questions relating to real property are decided by the real property law of the place where the property is situate; *L. l. actus* denotes the law of the place where a legal transaction took place. The principal species of the *L. l. actus* are the *L. l. contractus*, or the law of the place where a contract was made, or its terms finally agreed upon; *L. l. delicti commissi*, or law of the place where a civil injury was committed; *L. l. tut.* or law of the place where a contract was to be performed. The abbreviated term, *L. l.*, is generally appropriated to the *L. l. contractus*. The general presumption is that, in the absence of express terms to the contrary, a contract is to be performed at the place where it is made, and that its nature, the interpretation of its terms, and its validity generally are to be determined by the laws of that place, and where, therefore, a place of performance is specified the law of that place will govern the interpretation and validity of the contract and not the *L. l. contractus*; and where the law of the place of performance and that of the place where the contract was entered into differ, it is presumed that the parties intended the contract to be governed by the principles of the former. In the case of actions in Eng. courts on bills of exchange, the net results of the Bills of Exchange Act, 1882, is that the law of the place where an act is to be done is to govern the performance of that act, e.g. in the case of a bill drawn in France and accepted in England and payable in Germany, Fr. law governs the drawing, Eng. the acceptance, and Ger. the payment.

Lex Talionis, law of retaliation, which finds expression in the Moslem dispensation of an eye for an eye, etc. Something of the principle is to be found underlying Bentham's celebrated *Theory of Punishment*. Whether punishment in kind does most adequately fit the crime depends on whether one's individual theory of punishment is vindictive, retributive, deterrent, morbid, or otherwise. *L. T.* in modern international law includes (a) *amicable retaliation*, or retaliatory acts corresponding to legal but discourteous acts of another nation (called also *retorsion de droit*), and (b) *vindictive retaliation*, or *retorsio facti*, i.e. belligerent acts in kind.

Ley, Robert (1890-1915), Ger. Nazi

politician, b. at Niederbreidenbach in Hesse. He took a degree in chem. at the Univ. of Bonn and served in the First World War, being taken prisoner in France. He joined the National Socialist party in 1921 and represented it in the Reichstag in 1932. When Hitler came to power L. was given the task of abolishing the trade unions and setting up in their place a labour organisation with himself at the head. In this capacity he was responsible for directing the labour needs of the Ger. war machine both before and during the Second World War. On May 16, 1945, he was captured by Amer. troops and eventually stood his trial at Nuremberg as a war criminal. During the trial, however, he managed to commit suicide by hanging himself. He was notorious for his violent anti-semitism.

Leyburn, par. and mklt. tn. of the N. Riding of Yorkshire, England, 7½ m. S.W. of Richmond, near the L. b. of the Ure. Pop. 7,000.

Leycesteria formosa, Himalayan Honey-suckle, or Flowering Nutmeg, hardy deciduous shrub with handsome racemes of white or purple flowers, succeeded by purple berries which are eaten by game birds. A variety has pretty variegated leaves.

Levden, Lucas van (1491-1573), see LUCAS VAN LEYDEN

Leiden, or **Leyden**, city of Holland on the Old Rhine, 6 m. from the sea, 17 m. from Rotterdam and with canal communication to both Rotterdam and Amsterdam. It is an ant. tn. Its weaving establs. were very important at the end of the fifteenth century, and L. baize and L. cloth were familiar terms. These industries have declined, and linen and woollen manufs. are the most important; there is also a considerable transit trade in butter and cheese, and the tn. is a centre of the bulb-growing industry. But in spite of these industries L. is essentially an academic tn. and contains the most important univ. of Holland. It was founded in 1575 as a reward to the inhab. for their courageous defence against the Spaniards in 1574, and was for a long time one of the most famous schools of Europe, numbering among its profs. Schomius and Grotius. Connected with the univ. is a library containing over 190,000 vols., and some very important oriental and Gk. MSS.; the botanic garden, founded in 1587; the observatory (1566); the museum of natural hist.; and the Egyptian museum. Pop. 86,400.

Leydenburg (Transvaal, S. Africa), see LADENBURG.

Leyden Jar, see ELECTRICITY, *Electrostatics*.

Ley Farming, practice of growing grass as a crop and as pasture from selected seeds mixtures in a rotation, alternating with tillage crops. Earliest work on seeds mixtures was done in the 1870s. L. F. advanced in Great Britain under such pioneers as Prof. Gilchrist and Robert Elliot (Clifton Park). It received big impetus from advocacy and breeding of new and leafy strains of grasses and clovers bred at the Welsh Plant Breeding Station,

Aberystwyth, by Sir R. George Stapledon; it became a key factor in food production (milk and meat) during the Second World War, and is a permanent feature of modern post-war farming. The ley is valuable to redeem marginal or poor land, to refresh worn-out permanent pastures, to provide more nutritious and heavier crops for cutting or grazing, and to leave the soil in better fertility for the taking of a tillage crop. Leys may be laid down for one to six years. Thorough cultivation by plough, disks, roller, and harrows is essential to give a fine, firm, and shallow seed bed of good tilth. Estab. depends upon rectification of any lime deficiency, generous phosphatic manuring, and the application of a soluble nitrogenous fertiliser (nitro-chalk or sulphate of ammonia) at sowing time. Main sowing dates are mid March to early April, June, and late July-Aug., the earlier the more successful as a rule. Ley mixtures may be sown under corn but do better by direct sowing. Seeds mixture is determined more by usage; general purpose; mainly hay; or mainly grazing, and rainfall than by soil type; clovers, cock-foot, timothy, and perennial ryegrass being chiefly employed, though lucerne and sainfoin are sometimes used. See R. G. Stapledon, *The Plough-up Policy and Ley Farming*, 1939.

Leyland, urb. dist. and tn. of Lancashire, England, 11 m. S. of Preston. It has cotton-mills, bleaching yards, and manuf. of paint, rubber products, and motor vehicles. Pop. 13,300.

Leys School, The, public boarding-school for boys at Cambridge, England, founded in 1874 by leading Methodists who wished to provide a public school of an undenominational Christian character. The fine modern buildings have accommodation for 260 boys.

Leyte: 1. Prov. of the Philippines, including the is. of L. and over 7000 is. and islets with a total land area of 111,830 sq. m. The is. of L. (2785 sq. m.) is a detached peninsula of Samar, from which it is separated by the strait of San Juanico. The coasts are high and there are good natural harbours. Abaca, bananas, hemp, rice, and coco-nut oil are produced, and the mineral wealth includes gold, magnetite, and sulphur. Petroleum seepages have been reported. Cap. Tacloban. It is the eighth largest of the Philippine Is., and became of great strategic importance (possessing eight airfields) in the fighting in the S.W. Pacific during the Second World War. Occupied by the Jap. in 1941, it was recaptured in 1941, following large-scale landings by U.S. forces on Oct. 20. The Jap. were finally driven out by Dec. 23, 1944. Pop. 360,000. See PACIFIC CAMPAIGNS IN THE SECOND WORLD WAR. 2. Pueblo on N. coast of above is., near L. R., 36 m. N.W. of Tacloban. Pop. 7000.

Leyton, par. and tn. of Essex, forming one of the N.E. suburbs of London, situated on the l. b. of the Lea. The par. includes also the dist. of Leytonstone to the E. Saxon and Rom. remains have been found in the vicinity. L. has the Essex C.C. ground. Pop. 129,300.

Leze-majesty, or **Lése-majesté** (Norman-Fr., from Lat. *lasea majestas*, high treason), in jurisprudence refers to any crime committed against a sovereign power. Amongst the Romans, it denoted political misdemeanours, acts of rebellion, and similar offences against the majesty of the empire. It is now frequently used in a general sense as a term for an insult. See further under MAJESTY.

Lezghines, see LESGHIANES.

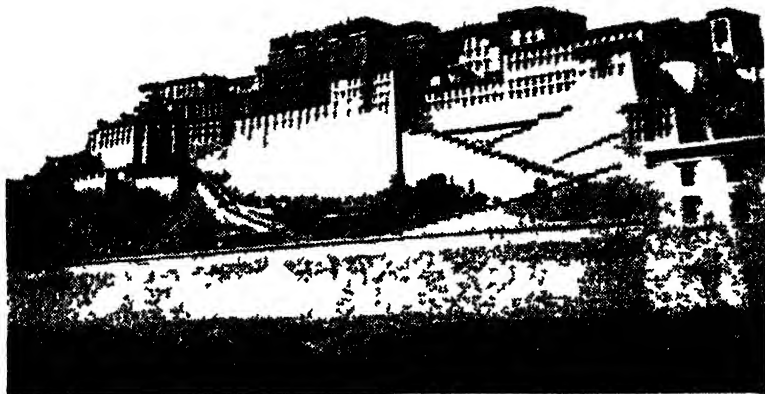
Lhasa, or **Lhasa** ('God's ground'), cap. of Tibet, 29° 39' N., 91° 5' E. It is situated on a fertile plain, 11,830 ft. above sea level, and is surrounded by barren hills. In the cup of which is a well-watered land of great fertility. A little to the S. flows the Kyichu, which empties into the great Tsungpo, some 40 m. to the S.W. Though it is only 360 m. by road from Darjeeling, until the Brit. armed mission of 1904 advanced into the interior of Tibet for the purpose of arranging a commercial treaty, only one European, Thomas Manning, an emissary of Warren Hastings, had penetrated to this 'forbidden city.' There is a permanent Chinese official representative in L., who comes under the Tibetan and Mongolian Affairs Commission of the Executive Yuan. This is a survival of Chinese suzerainty over Tibet; but the whole of central and E. Tibet is under independent Tibetan administration, with its own civil service and its own army. Tibetan officials bow to the authority of the Dalai Lama, who rules by virtue of his position as supreme head of the Lamaist Church. After the Brit. expedition this potentate fled to India, and in 1910 was again a fugitive. The Chinese deposed him but were roused by what they regarded as Brit. trespass on their domain into an effort to substantiate that Tibetan suzerainty which through lethargy and sloth had long since dwindled to a shadow. In 1912 the Dalai Lama returned, and the Chinese were worsted in the fighting that ensued. The pop. of L. is about 50,000. The fact that it is the Mecca of Lamaism, a debased form of Buddhism, draws students and devotees from all parts of Mongolia and Tibet, and from the broad Asiatic steppes, which reach from Lake Balkhash to Manchuria, and thus the traveller will find the public places thronged with Orientals of every feature, language, and dress, and will sometimes find whole families encamping in the streets, and the surrounding plateau strewn with the black tents of pilgrims from afar. A sacred road, the Ling-Kor, circles the city, a road the faithful pilgrim follows on his knees with frequent prostrations. The inhab. include Tibetans, Chinese, Mongolians, Nepalese, and Ladakhs. Most are engaged in weaving stuffs from native wools, but the potters also form a busy class, and the Nepalese are excellent gold and silver smiths. Commerce is largely concentrated in the hands of Muslims and foreigners.

Description.—From the W. L. is approached through a picturesque gateway, the Pargo Kallag, which lies in the narrow gap between two eminences, the Chagpori, crowned by a fort and the lamas'

medical college and that other on which is built the splendid palace of the Dalai Lama. It is called the Potala and is a majestic pile of red and white buildings covering a hillside from top to bottom with its terraces, its buttressed battlements and many windowed walls. It is approached on either side by a broad stone stairway which zigzags up to the outward sloping walls. The Jo Khang or great temple of the Jo or Buddha which is the principal religious edifice is situated in the middle place in the very heart of the city which lies a mile away from the Potala. Its exterior surroundings have a cluster of small buildings with

oldest convent of Tibet Dehung one of the largest monastic institutions in the world Sera and Galen.

History—The Dalai Lamas did not make L. their residence till the seventeenth century. Since the days of Ngawang Lopsang the fifth Dalai Lama (d. 1681) his successors have dwelt in his Potala and have continued to exerts their religious sway over an uneducated and credulous people who can have advanced little in many centuries. I have ever has been the political cap since the days of King Srongtsan Gampo who flourished in the seventh century and who first taught the Tibetans



THE POTALA, LHASA

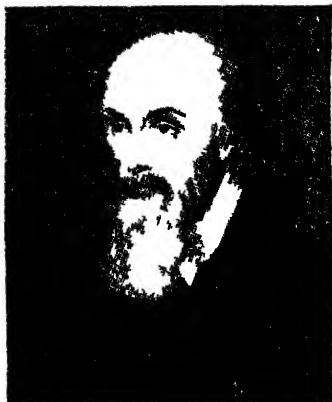
E. N. A.

glittering gilded roofs, but within are found jewelled lamps, highly wrought gold and silver vessels and richly decorated chapels, images and shrines. The private houses are mostly of sun-dried brick and clay whitewash and bands of red and yellow entering largely into their color scheme. The general appearance in comparatively recent years was one of the utmost squalor: the avenues were full of filthy hungry dogs and pigs wandered up and down the dirty streets. There were no pavements, no drains and the common two-storied dwellings whose lower halves were windowless were begrimed with soot, and repulsive through their stench. How far this picture is true to day is not easily ascertainable but it is probable that no great change has taken place. L. is a refuge of monks and lamas. There are monasteries within the city, but the more famous lie some few miles distant. Of these latter the most revered are Samye (founded in 770), the

about Buddha. A monument recording a peace made on equal terms between the sovereign of Tibet and the Great Tang emperor of China in 822 refers to the heyday of L.'s independence and prosperity. From that date the monarchy declined and yielded to a state of chaos where central authority was no longer respected and every town was under the control of its own priests. See S. C. Das, *Journey to Lhasa and Central Tibet* 1902; P. Landon, *Lhasa the Central Tibet Expedition* 1904; E. Candier, *Travelling in Lhasa* 1910; A. David Noel, *My Journey to Lhasa* 1927; E. S. Chapin, *Lhasa the Holy City* 1938.

Lherzolite, in petrology a fine grained dark green or black rock, often granular and consisting of olivine, chrome diopside and enstatite, and accessory pyroxene or chromite, and belonging to the pyroxenites. First described from Lherz in the Pyrenees. L'Hôpital, Guillaume François Antoine (1661-1704) marquis de Sainte Mesme and

comte d'Autremont le mathématicien, b in Paris entered the army, but was obliged to leave it on account of defective sight. He had always studied mathematics with great zeal and in 1692 made the acquaintance of John Bernoulli from whom he learnt the principles of the infinitesimal calculus. His works include *Le Théorie des courbes mécaniques* (1693) *L'analyse des infiniment petits* (1696) the earliest systematical treatise on the differential calculus *Traité analytique des courbes coniques* (1720) *Les Deux géométries* and *La Construction des équations*.



MICHEL DE L'HÔPITAL

L'Hôpital, Michel de (c. 1601-73) Fr. statesman, b at Aigueperse, Auvergne, studied law at Toulouse and Padua and became an advocate in Paris in 1534. He rapidly rose to positions of honour becoming successively auditor of the Rolls at Rouen, councillor of the parliament of Paris (1604-11), Henry II at the Council of Trent (1547-48), steward in the household of the duchess of Lorraine, superintendent of finances (1603), member of the Council of State (1599) and chancellor of France (1606). He resigned in 1608 his moderation having brought him into disrepute with the Catholics. See *L'Hôpital* (1905).

Li, Chinese measure of length just over one third of an English mile. Also a small coin or weight of about 0.83 gram.

Lia Fail, see **LYSRAÏL**.

Liakhov Islands, see **NEW SIBERIA ISLANDS**.

Liamo, see **NING PO**.

Liana, or **Liane** (Fr. *lier*, to bind), name given generally to any climbing or twining plant which grows in tropical forests. A well known example may be found in the genus *Sauvire*.

Liaoning, prov. of Manchuria, China, one of the nine provs. formed in 1945 by the reorganisation of the three N.F. provs.,

Li, Kirin and Hollungkiang which comprised Manchuria. It lies in the S. with Anking on the E. and Hopen and Jehol on the W. Its important tns. are the cap. Moukden (Shenyang), Luoyang (Chink-sien) Fushun (a coal mining centre) and Penki (where there are iron deposits). Port Arthur leased to Russia lies at the S. extremity. The prov. produces coal and iron, wheat, millet and soya beans. Area 25,962 sq. m. Pop. 9,992,000.

Liaopoh, one of the nine provs. of Manchuria, China, formed in 1911 by the reorganisation of the three N.F. provs. The N.W. has grazing land and the S.E. is a fertile agric. area. Millet, wheat and soya beans are produced. The chief tns. are Liowin in the cap. and a railway junction Szapinghai, also a rail junction and Lungliao. Area 47,603 sq. m. Pop. 3,708,000.

Liaotung, peninsula of Manchuria in the extreme S., forming part of Antung prov. The gulf of Li. is on the W. and Korea Bay on the E. At the S. tip of Li. is Port Arthur. Fuchow is important in Li.

Liaoyang, city of Manchuria, lies in the prov. of Liaoning between Mukden and Port Arthur. It was the scene of a great Russian defeat in 1901 when it fell into the hands of the Japs. Pop. 100,000.

Liquat Ali Khan (d. 1896) Indian politician, b in Lucknow, second son of a wealthy landowning family which claims descent from the Persian king, Naushervan the Just and is said to have gone to India five centuries ago. From 1919 to 1922 he was in England and after taking a law degree from Victoria College, Oxford, he was called to the Bar by the Inner Temple. In 1926 he was elected to the United Provs. Legislative Council where he sat for fourteen years. Six of them as deputy president and leader of the Democratic party. In 1940 he was elected to what was then India's Central Legislative Assembly and became deputy leader of the Muslim League. Through his long and close association with Jinnah (q.v.) he was destined to play a leading part in the negotiations which culminated in the partition of India into two dominions. In 1946 he was appointed a member of the Viceroy's Executive Council and leader of the Muslim League in the interim gov. In the gov. he was the first Indian finance minister and presented the Indian budget of 1947-48. He has been Home Minister and minister of defence of Pakistan since the new dominion was established. He took part in the Brit. Commonwealth Conference of April 1949 when he discussed the commonwealth status of India.

Libanius (c. 314-c. 392), Grk. sophist, b at Antioch, lived and taught mainly in Constantinople, but also in Athens and Antioch. In religion he was a pagan, and supported the views and plans of the Emperor Julian with regard to the Christians, but in private life he was mild and tolerant and always maintained friendly relations towards St. Basil and St. John Chrysostom, two of his pupils. He wrote a life of Demosthenes and 'arguments' to that orator's speeches.

His *Orations, Declarations, etc.*, have been ed. by Reiske (4 vols., 1791-97), and his letters by J. C. Wolf (1738). See lives by L. Petit, 1866, and G. R. Sievers, 1868.

Libanon, or **Libanus**, see **LEBANON**, **MOUNT**.

Libation (Lat. *libatio*, a drink-offering), wine or other liquid poured out in honour of a deity. In classic times public sacrifices were often accompanied by *liba*; the custom was also carried out privately, and the Romans, at their meals made drink-offerings to the household gods. A similar practice prevailed among the Jews, who poured oil or wine upon their altars. With the Greeks, the *liba* sometimes consisted of milk, honey, etc.

Libau, or **Libava**, see **LIEPĀJA**.

Libavius, Andreas (1540-1616), (Ger. chemist, b. at Halle; became director of the gymnasium at Coburg. L. wrote an important treatise on chem. (*Alchymia recognita*, 1597) and designed the first chemical (as opposed to alchemical) laboratory; he discovered stannic chloride, SnCl₄, and developed a rudimentary system of chemical analysis.

Libel, see **DEFAMATION**.

Libellatici, name given to these Christians who, during the persecution of Decius (A.D. 249-52), evaded the edicts directed against their faith by obtaining *libelli*, which were either official statements that they had sacrificed to the imperial gods, or magistrates' certificates that the charge of Christianity was unfounded.

Libellula, typical genus of the family Libellulidae, or dragon-flies (q.v.). Named by Linnaeus from the supposed resemblance of the expanded wings to an open book.

Liber, term applied in botany to the inner bark of exogenous stems. It is synonymous with phloem and bast (q.v.).

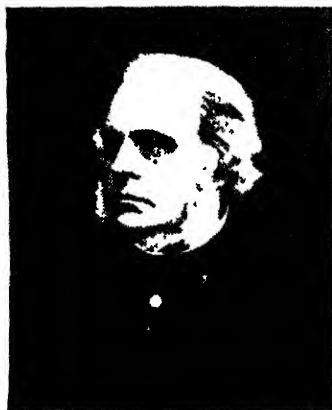
Liber, in Roman mythology, the deity corresponding to the Greek Dionysus. Originally the H. god of the productivity of nature, and especially of the vine, so called from the unrestrained character of his worship, L. was identified with Dionysus when the Hellenic cult of Demeter spread to Italy. A temple was built to L., Libera, and Ceres near the Circus Maximus, and a festival, called the 'Liberalia,' was held in Rome on March 17. In the rural parts a feast to L. and Liber (Gk. Persephone) was held at the time of the grape harvest, the first fruits of which were offered up, together with cakes of meal, honey, and oil. At the *Liberalia* the youths used to lay aside the *toga praeterea* and assume the *toga libera*, or *virtus*. See Ovid, *Fasti*, iii.

Liberalism, in modern times stands for such government by the people as will maintain individual liberty to the maximum extent compatible with social order. Hence it is that L. and liberty are intimately bound up with one another, though the exact connotation of the latter term is notoriously difficult to determine. Liberty on its positive side was defined by H. H. Asquith (afterwards Lord Oxford and Asquith, q.v.) (speech at the conference of delegates of the Liberal Association of

E. Fife, 1907) to mean 'the power of initiative, the free play of intelligences and wills, the right, so long as a man did not become a danger or a nuisance to the community, to use as he thought best the faculties of his nature, or his brain, and the opportunities of his life.' According to Prof. Hobhouse it is antagonistic to all 'standardisation,' and such Liberal-Socialism as may be said to exist must be democratic and must 'emerge from the efforts of society as a whole to secure a fuller measure of justice and a better organisation of mutual aid . . . must give the average man free play in the personal life for which he really craves.' Asquith publicly stated the distinction between L. and Socialism in much the same terms, and based the power of L. to combat such Socialism as spelt the negation of liberty upon the fact that the Liberal party was free and unfettered by entangling alliances with those 'interests, monopolies, classes, and privileges which with a kind of network of interdependence covered the frame of society and made progress with social reforms seem sometimes desperate.' In his historical review of L. Prof. Hobhouse shows how the Liberal movement has often sought to dispense with general principles, a fact which explains its frequent inconsistencies, inconsistencies which, however, must inevitably exist in any upward or progressive movement acting partly through abolition and partly through compromise. Such theory as modern L. has is one inducted from the practical needs of the governed in preference to theory based on the empty forms of constitutional dogma. Many Liberals, notably M. Faguet, abrogate speculative foundations altogether, and look solely to social utility.

Perhaps the greatest names in the past hist. of L. are those of Cobden and Bright, Mill and Gladstone. Bentham's influence upon the Cobden school was essentially practical, and the great work of that school was the emancipation of foreign trade from tariffs. Modern L. probably owes as much to Mill as to any other thinker, especially as it can refer such of its principles as are almost purely socialist to Mill's ideas of a co-operative organisation of society to secure the amelioration of the position of the wage-earners, and the extension of the franchise to the whole of the people. Gladstone was a Cobdenite in economics, and it is in relation to international dealings that he struck his original note. Gladstone's foreign policy was radically opposed to that of 'annexation' and jingoism (q.v.), and with him that alone was internationally right which was according to the dictates of conscience, an ideal which contemplates every man as a citizen, not of a narrow circumscribed state, but rather as a citizen of a possible world state. The work of embodying the ideals of L. in Acts of Parliament was long postponed, and has been the work almost exclusively of more recent years, an effective check during the last twenty years of the nineteenth century to domestic legislation of all kinds being offered first

by the Homo Rulo question, and later by the trumpet-call of imperialism (q.v.). Liberals on the reaction of the electoral tide in their favour in 1906 at once set to work to carry out their ideals, and the seven ensuing years saw the triumphant passing, *inter alia*, of Acts to secure a minimum wage to various trades, the estab. of labour exchanges, a scheme of national insurance, the provision of old-age pensions, the grant of local government to S. Africa, the immunity of trade union funds from liability for the tortious acts of their agents, facilities for the provision of small holdings and allotments, the taxation of the increment value of land, the increase of liquor duties and the virtual explosion of the inflated value of 'tied houses,' the curtailment of the legislative power of the House of Lords, the



JOHN BRIGHT

consolidation of free trade principles, the practical abolition of religious teaching in state-aided schools, the better housing of the working classes, and a number of other avowedly democratic reforms. The promising outlook of L. in 1914 suffered severely during the First World War. A serious cleavage occurred in 1916 between Asquith and Lloyd George (q.v.), and by 1918 a small party of Independent Liberals found themselves in isolation. A partial recovery was made in 1922 under the banner of Free Trade, and 150 members of the party were returned at the election of that year. But the disaster of 1924, when Liberals secured only forty seats, caused internal dissension to reappear with increased bitterness, and over the question of the general strike (q.v.) Lloyd George was officially outlawed by the estab. Liberal party. Upon the death of Lord Oxford in 1928, however, Lloyd George assumed leadership of the Liberal party. In 1931 sev. Liberals were included in the National Gov. (q.v.); but, following the Ottawa

Imperial (Economic) Conference (q.v.), many prominent Liberals seceded, owing to their disagreement over the tariff agreements concluded with the dominion govts. There would seem to be practically no difference in political outlook between the National Liberals—which small party included Lord Simon (lord chancellor)—and the Conservatives. L. as a political force suffered a further eclipse in the general election of 1915, securing only twelve seats, while the Liberal National held only thirteen. *See* NATIONAL GOVERNMENT. *See* J. S. Mill, *Representative Government*, 1861; J. Bentham, *Principles of Morals and Legislation*, 1796; T. H. Green, *Principles of Political Obligation*, 1895, and *Liberal Legislation and Freedom of Contract*; E. Faguet, *Le Liberalisme*, 1902; J. MacCunn, *Six Radical Thinkers*, 1910; L. T. Hobhouse, *Liberalism*, 1911; J. M. Robertson, *Meaning of Liberalism*, 1912; C. F. G. Masterman, *The New Liberalism*, 1920; H. H. Asquith (ed. of Oxford), *Fifty Years of Parliament* (2 vols.), 1926, and *Memories and Reflections, 1852-1927* (2 vols.), 1927; H. J. Laski, *Liberty in the Modern State*, 1930; S. Maccoy, *English Radicalism, 1832-52*, 1935; G. Murray, *Liberalism and Civilisation*, 1938; W. Lippmann, *The Good Society*, 1939; D. W. Brogan, *The Free Society*, 1945; K. Barth, *Die Idee der Toleranz*, 1916; and R. J. Crankshank, *The Liberal Party*, 1949.

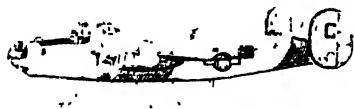
Liberalitas Juliae, *see* EVORA.

Liberal League, despairing offshoot of the leaderless Liberal party, formed in 1901, when as yet that party was still 'in the wilderness.' Judged by the tendencies of Liberalism before the First World War the L. L. was distinctly retrogressive, for its prin. founder, the earl of Rosebery, in more or less definitively breaking away, together with his associates, Sir Edward (later earl) Grev and Asquith (later Lord Oxford and Asquith), from the more numerous body of Liberals in the 'tabernacle' of Sir Henry Campbell-Bannerman, elected to expunge Home Rule from the party creed, and to side-track anything that militated against Liberal Imperialism. Late in 1905, however, when the want of solidarity in the Liberal opposition appeared to have given way to a general agreement, Lord Rosebery, on the question of the party attitude towards Home Rule again becoming acute, once more declined to have anything to do with it, and left Sir Henry Campbell-Bannerman in sole command of the party's future. When the flower of the L. L., in response to Lord Rosebery's exhortations of loyalty to the official leader, Campbell-Bannerman, had thrown in their lot with the latter, that future materialised in a period of almost unprecedented success. Shortly after this, when Lord Rosebery's Liberalism fell short of the progressive demands of the historic Budget of 1909, the L. L. was dissolved.

Liberal Unionists, *see* under POLITICAL PARTIES.

Liberator, Consolidated, Amor, bomber and transport aircraft. The original contract for the Liberator was placed by the

U.S. Army on March 30, 1939, and the prototype flew on Dec. 29, a production order being given in the autumn of 1940. Production was stopped on May 31, 1945, by which time over 19,000 had been built. Also known by its maker's number, the Model 32, the U.S. Army number B-24, and the U.S. Navy PB4Y. The first Ls. came to Britain under Lease-Lend, and were converted to transports for the Atlantic ferry because they were not suitable for operational duties. The next machines were modified and put into service with Coastal Command, where their long-range and heavy armament — the R.A.F. added four 20 mm. cannon beneath the fuselage — made them ideal for attacking submarines. When the U.S.A. entered the war they used the B-24 in large numbers in all theatres for high-altitude daylight formation bombing. Of the many variants the B-24 J was one of the most widely used; with four 1200 h.p. turbo-supercharged engines it flew at 297 m.p.h. at 25,000 ft., and had a range of 1540 m. at 237 m.p.h. with normal fuel



THE LIBERATOR

B-24 Liberator in U.S.A.A.F. markings. There were twin-gun turrets in the nose, on top of the fuselage, a retractable ball-shaped one below and another in the tail, and also single guns in each side of the fuselage.

and full bomb load of 8000 lb. Amer. machines had a crew of ten and an armament of ten 0.5 machine guns in four twin-gun powered turrets and two hand-operated beam guns. Two bomb bays in the fuselage under the wing had 'roll-top deck' doors, and held bombs one above the other. These bays were too small to take bombs larger than 2000 lb., but instead two 4000 lb. 'block busters' could be carried externally under the wing. The R.A.F. used Ls. as bombers in the Far E., but main use was with Coastal and Transport Commands. One machine was used, and very much liked, by Mr. Churchill for many of his overseas journeys, including his visit to Egypt before El Alamein. Ls. were also used for long-range espionage missions to Poland. Since the Second World War they have been used as transatlantic mail and freight aircraft by B.O.A.C.

Liberi, Pietro (1605-87), called 'Il Libertino,' It. painter, b. at Padua, studied under Padovanino. His paintings exhibit great variety of subjects and treatment, the most notable of them being 'The Battle of the Dardanelles,' 'Venus,' and 'The Judgment of Paris.'

Liberia, Negro republic in W. Africa, lying between the Brit. colony of Sierra Leone on the N.W., the Fr. colony of the

Ivory Coast on the E., and Fr. Guinea on the N., and extending some 350 m. along the N. coast of the gulf of Guinea, with the R. Mano on the W. and the Kwalli on the E. From time to time the boundaries of the Liberian frontier have been marked out by Franco-Liberian treaties, and the present demarcation was fixed in 1911. The chief headlands are Cape Mount, 1050 ft. above sea level, with the lagoon known as Fisherman Lake at its base, Cape Montsenado, 350 ft., and Cape Palmas, 200 ft. above the sea. The area is 43,000 sq. m. Monrovia is the cap., and the nine ports of entry include also Robertsport, Marshall, Grand Bassa, and Greenville. The coastal plain is narrow except in the W.; in the E. the land rises to Mt. Kibi Diandi (2296 ft.). The civilised region stretches, about 20 m. in width, along the coast; further inland is unexploited, little explored forest. The prin. rvs., besides the above mentioned, are the Cestos, of which the Nuon has been discovered to be the upper course (1908), the St. John, and the St. Paul. Most of these have rapids or falls which prevent navigation, the Kwalli being the only one servicable. The hinterland is composed of vast forests, the Nidi forest possessing *Euntunia* rubber trees. Many rare species of animals are found, and the vegetation is unusually rich and beautiful. So far little has been done with regard to the mineral wealth of the dist.: there are indications of gold in most of the rvs., also of bitumen; sapphires have been found, corundum being met with in many places; lead and iron are also found. Iron is being worked and gold mining is increasing. The vegetable wealth of the country is not yet fully developed. One Para rubber plantation has been started and over \$11,000,000 worth of rubber was exported in 1916; some palm-oil, palm kernels, coffee, cocoa, piasava, kola-nuts, and ivory are also produced and exported. L. has no railways; there are about 250 m. of state roads and 160 m. of private roads in the rubber plantations. With lend-lease (g.p.) aid the road system was extended into the interior. There is an airport at Robertsfield, and services are run by Air France and Pan-Am. Airways.

In 1821 the Amer. Colonisation Society selected Cape Montsenado as a refuge for the Amer. freed Negro slaves, and from that time onward they continued to be sent there. The Amer. colony was founded by Jehudi Ashmun between 1822 and 1828, the name L. being given it in 1824 by the Rev. R. R. Gurley. Until 1837 there were two republics, L. and Maryland. Troubles on the frontier led eventually to an Amer. commission being sent to L. by President Roosevelt in 1909, and this resulted in Amer. supervision of the finances, military organisation, and the boundary question. The republic is now governed by a president, elected for eight years, a House of Representatives, and a Senate, its constitution being modelled on that of the U.S.A. There are local magistrates, courts of common pleas, quarterly courts (five), and a supreme court. Brit. customs officers have been

lent to L. There is a gov. college at Monrovia, and about 200 schools, of which the greater part is maintained either by the gov. or by missions. The official gov. language is Eng. There is a large native pop. (2,000,000) which includes the Kru, Mandingo and Gola tribes. The Mandingos are Muslims, and the other tribes are mostly pagan. The American-Liberian pop. numbers about 12,000. About 50,000 of the Negroes on the coast have been converted to Christianity. Until L. declared war on Germany in 1917 about 70 per cent of her trade had been in Ger. hands. L. was one of the signatories of the treaty of Versailles, and an original member of the League of Nations. In 1927 the U.S.A. arranged a loan of \$5,000,000, with which the previous loan (1912), mainly Brit. in origin, was paid off. As a result of an International Commission of Inquiry on slavery and Forced Labour, the Liberian Gov. decided to adopt various suggestions and recommendations for social reform, and requested the co-operation of the League of Nations to that end. During the Second World War agreements between L. and the U.S.A. in 1942 and 1943 led to America undertaking considerable development in the country from the point of view of defence and communications. L. finally declared war on Germany and Japan on Jan. 26, 1941. In this year an Amer. mission was sent out to further the economic development of the country. See Sir H. Johnston, *Liberia* (2 vols.), 1906; H. V. Reeve, *The Black Republic: Liberia*, 1923; R. P. Strong, *The African Republic of Liberia and the Belgian Congo*, 1930; G. Greene, *Journey Without Maps*, 1936; G. W. Brown, *The Economic History of Liberia*, 1941; and Esther Warner, *New Song in a Strange Land*, 1948.

Liberius, St. (352-66), pope, who succeeded Julius I. He was banished to Thrace (355) by Emperor Constantius for refusing to excommunicate Athanasius. About 357 he was allowed to return to Rome, whereupon Felix II., who had been installed in his absence, retired. It has been asserted, and some historians still hold, that L. signed the Arian 'second formula of Sirinnum' as the price of his liberation. He later condemned even the mitigated 'Third Formula' (360). See L. Duchesne in *Mélanges de l'école française de Rome*, xxviii, 1. and ii, 1908, and J. Chapman, 'Contested Letters of Pope Liberius' in *Revue bénédictine*, 1910.

Liber Regis (*Valor Ecclesiasticus*), book compiled in 1535 on the eve of the Reformation, which contains an account of the valuation of all the eccles. property of England and Wales. The authorisation for the work was an Act providing for the payment to the king as the supreme head of the Church of England, not only of first-fruits and benefices, but of one-tenth of the entire property of the Church. An abridgment of this record entitled *Liber Valorum* was the foundation of the *L. R. vel Thesaurus Rerum Ecclesiasticarum* (1786), by one John Bacon, receiver of first-fruits. Queen Anne by giving up

first-fruits and tithes to trustees, who were empowered to administer them for the benefit of the poorer clergy, thereby made them part of the fund that has ever since been known as Queen Anne's Bounty.

Libertad, or **La Libertad**: 1. Dept. in the S.W. of San Salvador. The Pacific Ocean forms the S. boundary of the dept., which is very mountainous. There are crops of rice, coffee, sugar, etc., which constitute a considerable export trade, and silver- and gold-mines. Pop. 19,000. 2. La L., the port, is 16 m. S.S.W. of Nueva San Salvador. Pop. 2000. 3. Maritime dept. of N.W. Peru, with Ancash to the S. and Lambayeque to the N. The W. Cordilleras traverse the dept. from N.W. to S.E. Sugar, coffee, cocoa, rice, etc., are produced; mineral products include silver and gold, and there is much timber. Cap. Trujillo. Area 10,206 sq. m. Pop. 383,300.

Liberton, vil. 2½ m. S.S.E. of Edinburgh. It has an anct. par. church and convent. In the neighbourhood are quarries and coal mines. Pop. 5000.

Liberty Bell, bell cast in London in 1752, with the motto, 'Proclaim liberty throughout the land unto all the inhabitants thereof.' It was recast at Philadelphia and rung on the occasion of the adoption by Congress of the Declaration of Independence. It is in Independence Hall, Philadelphia.

Liberty, Equality, Fraternity (Fr. *liberté, égalité, fraternité*), motto of the Fr. republic, dating from the first revolution, when it was adopted as a political confession of faith, embodying the main teachings of the social philosophers of the eighteenth century. By 'equality' was meant merely equality for rich and poor in the eyes of the law and the absence of class privileges.

Liberty Loans, name given to the internal loans raised in the U.S.A. during the first World War. There were four separate issues of these loans during the war, and, after the armistice, a fifth, known as the Victory Liberty Loan. The Amer. people subscribed some \$24,000,000,000, and nearly one-quarter of the pop. of the country became owners of this scrip. All the bonds were issued at par, some of them being as low in value as \$50. The first one bore interest at 3½ per cent, the fifth at 4½ per cent. The fourth loan, which was the biggest raised by any country during the war, brought in \$7,000,000,000. Every loan was oversubscribed.

Liberty of the Press, see PRESS, FREEDOM OF THE.

Liberty Party, Amer. political anti-slavery party, founded 1839. It opposed the annexation of Texas. Its last convention was held in 1847.

Liberty Ships, name given to cargo vessels of 7100 gross tonnage built by assembly of prefabricated material under the auspices of the U.S. Maritime Commission. The original programme in 1941 consisted of 200 ships for Lend-Lease purposes. In 1942, after the Jap. attack on Pearl Harbour, the programme was

expanded, and in the peak year in 1943 over 1200 L. S. were completed in U.S. dockyards. The vessels were capable of a speed of 11 knots an hour, some being coal burning, some oil. Dimensions: length 441 ft. 6 in.; beam 56 ft. 10 in.

Librum Veto became an integral part of the Polish constitution at some time in the earlier half of the seventeenth century. It was adopted in the diet by the *szlachta*, or gentry. The political equality of all Polish gentlemen was taken for granted, and accordingly any one of them might say 'Nie pozwalam' (I disapprove) to any measure introduced into the diet, and thus compass the diet's dissolution, for having assumed the principle of absolute equality it followed that every Bill must receive unanimous support before passing into law. The L. V. was first used in 1652, and was finally abolished by the revolution of 1791.

Libonias, or **Jacobinia**, genus of shrubs and herbs, natives of tropical America.

Libitina, Rom. goddess who presided over funeral ceremonies; her temple at Rome contained all the symbols of mourning. The door through which wounded gladiators were carried from the arena was called the *Gateway of L.*

Libmanan, pueblo of the Philippine Is., situated in the Camarines prov., Luzon, on the Nicol. Pop. 15,000.

Libourne, tn. and riv. port of the Gironde dept., France, at the confluence of the Dordogne and the Isle, 17 m. E.N.E. of Bordeaux. One of the anct. free tns. founded by the Eng. (c. 1209), it became a thriving city. It produces woollens and military clothing; wine and brandy are exported. Pop. 110,600.

Libra (the *Balance*), seventh sign of the zodiac. In the older Gk. writers the Scorpion occupies two constellations of the zodiac, or rather the body of the animal occupies one and the claws, *chela* (χελαι), another. Though the *chela* were certainly a part of the Scorpion, yet they are often mentioned (as by Aratus, for instance) by themselves, as if they formed a distinct constellation. The word *chela* had sev. significations; so that it may have been by simple mistranslation that the Roms. (according to Hyginus, Virgil, etc.) gave the name of L. to the part of the heavens in question, and drew back the claws of the Scorpion to make room for the scales. L. is surrounded by Scorpius, Ophiuchus, Virgo, Centaurus, and Lupus, and contains the well-known globular cluster Messier 5 which has as many as eighty-five short-period variables. 2. Rom. unit of weight, and a unit of value, hence the Eng. & Lat.-Amer. countries, Spain, and Portugal still use the term for a unit of weight.

Libraries. The earliest collection of written works, apart from what we may call 'books,' appear to have been the official preservation of gov. and administrative records or archives, whose remains, found in anct. Babylonia, Egypt, and Crete, have proved of inestimable value to the archaeologist. Apart from their archives both Assyria, in the great library of Assurbanipal, and Egypt, in the

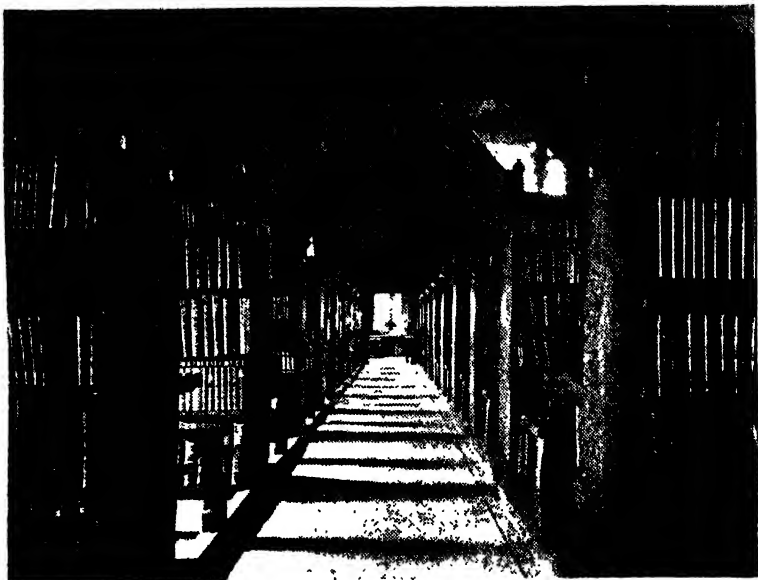
religious and scientific L. attached to the temples, afford examples of L. of books proper. The greatest L. of the anct. world were those of Alexandria, where there were two: the larger in the Bruchelou or Bruchium quarter, the smaller in the Serapeum. No precise enumeration of the books in them is possible, but Seneca gives the number as 400,000, in which connection it is to be borne in mind that any one well-known work, such as the *Odyssey* of Homer, probably comprised a large number of books—a vol. in the anct. world containing considerably less matter than a modern book or vol. The catalogue of the famous librarian, Callimachus, arranges all the prin. vols. in 120 classes. The library of the Bruchelou, which was connected with the museum or academy, was destroyed by fire accidentally when Julius Cæsar burnt the fleet; the other, in the Serapeum, thereafter became the chief library, though Antony tried to supply the loss by giving Cleopatra the library from Pergamum, so that the Bruchelou remained the literary quarter of Alexandria for at least two centuries. It seems doubtful, however, whether the L. of Alexandria continued, as is supposed, in a flourishing state until their destruction by the Saracens in A.D. 640; for it is probable that the library in the Bruchelou was finally lost when that quarter was destroyed by Aurelian in A.D. 273, while in A.D. 390, when Theodosius ordered the Serapeum to be destroyed, the Churtian pillaged the books in it. The most famous of private L. was that of Aristotle, said to have ultimately found its way to Rome in the time of Sulla. Æmilius Paulus brought back the library of the Macedonian Persus, and the wealthy Lucullus made book collecting fashionable. Augustus was the first of the emperors to establish public L., the Octavian and Palatine. One of those famous imperial L. was the Ulpian, founded by Trajan, which, housed in the baths of Diocletian, was destroyed by fire under Commodus. The great collection at Constantinople made by Constantine, Julian, and Theodosius formed a nucleus which was greatly enlarged, and from which much of anct. Gk. learning came to the W. after the capture of the city by the Turks.

During the early Middle Ages the collection and keeping of books and the maintenance of learning fell to the Church and to the monasteries, and the L. of the Benedictines, always renowned for their love of books, as at St. Gall, St. Henry, etc., were famous. The catalogues of many of these monastic L. have been preserved; thus we know that the monastery of Christ Church, Canterbury, had during the thirteenth and fourteenth centuries a library containing some 3000 works. (For the management and arrangement of the early L. see Cardinal F. Gasquet, *The Old English Bible*, 1897, and J. Willis Clark, *The Care of Books*, 1901.) An example of the old form of library may be seen still at Merton College, Oxford, at Cesena in N. Italy, and in the Laurentian library at Florence.

With the invention of printing the

modern library may be regarded as estab. All great L. preserve among their most precious treasures the MS. relics of the past, and the incunabula, or early printed books, not only command enormous prices when any come into the public market, but are the object of the scholar's research for cataloguing and historical purposes. L. are, however, now chiefly regarded from the angle of practical utility, and their system of arrangement, cataloguing, etc., is based on scientific principles by which their resources can be most readily available to the ever-growing

IV. In 1823, and the splendid Grenville collection by bequest in 1896. At the present day, mainly due to the great work of the most famous of its librarians, Sir Anthony Panizzi, the library possesses over 4,500,000 printed vols. and over 200,000 MSS. It takes rank as the greatest of all L., and perhaps chiefly for the reason that in every language its collection of books is the best outside their native country. The great circular reading room, designed by Panizzi, was opened in 1857. It is compulsory for all Eng. publishers to deposit one copy of



Herbert Felton

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needs of readers and students of every kind. Many of the great L. of the world receive separate articles in this encyclopedia; here is given a brief account under various countries of the most noteworthy, and, to conclude with, a reference to the public or free library movement which has placed the learning of the past and present at the disposal of all classes.

The United Kingdom.—The library of the Brit. Museum dates from the acquirement of Sir Hans Sloane's collection in 1753, to which was added the great Cotton collection, acquired by the nation in 1700, and the library of the kings of England, given in 1757 by George II., together with the invaluable right, shared by the Bodleian among other L., to a copy of every book entered at Stationers' Hall. In 1759 the museum library was opened. George III.'s collection was presented by George

every new book or periodical at the Brit. Museum, the Bodleian Library, Oxford, the Univ. Library, Cambridge, the National L. of Wales and Scotland (formerly the Advocates' Library), and Trinity College, Dublin. Other great London L. are the library of London Univ. (315,000 vols., including the Goldsmiths' library of economic literature) in the new building in Bloomsbury, the Patent Office Library (280,000 vols.), the National Art (200,000 vols. and 250,000 photos) and Science (250,000 vols.) L. at S. Kensington, and, perhaps most useful of all, the London Library (450,000 vols.), founded in 1841, open to subscribers, which, unlike the others, issues books to borrowers. Its splendid collection of books, its well-arranged catalogues, and small subscription make it useful to all students and readers generally. The L. of the

Inns of Court (three of which were badly damaged by Ger. air raids) each contain from 70,000 to 85,000 vols. The library of the Royal Society has 120,000 vols., and that of the Royal Institution 65,000. Many of the gov. depts. have good L. (besides the Patent Office), namely, the War Office (founded largely on the nucleus of the old Aldershot Library, 130,000 vols.); Admiralty (100,000 vols.); Board of Education (80,000 vols.); Foreign Office (76,000 vols.); Board of Trade (58,000 vols.); Colonial and Commonwealth Relations (formerly Dominions) Office (40,000 vols.). A relatively small library of books and a large collection of very valuable oriental MSS. is housed in the former India Office. A library unique of its kind is that of the College of Arms situated in Queen Victoria Street, London. It contains approximately 25,000 vols., including a very large genealogical and heraldic MS. collection, and the official records of armorial bearings and pedigrees. The library was, presumably, in existence as early as 1551, for its former building, destroyed in the Fire of London, was assigned to it in that year.

Outside London is the State Public Library of the Museum of Science and Art in Edinburgh and, next in rank and importance, the Bodleian (1,500,000 vols. and 40,000 MSS.) at Oxford, opened by Sir Thomas Bodley in 1602. It obtained the right to a copy of every book entered at Stationers' Hall in 1610. At Oxford, too, is the Taylorian Library with over 100,000 books. The Univ. Library at Cambridge (with 1,500,000 vols.) dates from the fifteenth century; its first great benefaction was in 1175, when the archbishop of York, Thomas Scott, erected a building which housed it until 1755. Trinity College Library is the largest individual college library (120,000 vols. and many MSS.). In Liverpool a building opened by Earl Baldwin in 1939 has given Liverpool Univ. a fine modern univ. library. The Mitchell Library of Glasgow is one of the largest Scottish L. There are many fine endowed L., the Chetham Library at Manchester taking priority as perhaps the earliest (1653) free library in England; the John Rylands Library, founded by Mrs. Rylands in memory of her husband, contains a wonderful collection of incunabula, the basis of which was the great Althorp Library collected by Earl Spencer. The L. of the various learned and other societies are in many cases of high value; some of the most notable are those of the Royal Society of Medicine, the Royal College of Surgeons, the Royal Empire Society (very seriously damaged by a Ger. bomb in 1911), the Zoological Society, the Geological Society, and many others.

In recent years L. of different countries have organised a system of co-operation in order to augment their resources. The movement is valuable, for in a recently compiled list of books in the Brit. Museum, Bibliothèque Nationale, and the Library of Congress a small section as to aba consists of 1357 titles, and the Brit. Museum and the Bodleian Library have only one-third

of the number. This, of course, does not apply to general reading, but to research, and illustrates the need for some system of international co-ordination in order to open avenues outside one particular country. These international resources are classified in the *Index generalis*, the *Minerva Index*, and the index issued by the U.S. Bureau of Education. According to the 1925 indexes, the world resources of printed books number 225,212,000 in 2300 L. This figure does not include over 1,000,000 bound MSS., or the contents of various archives; small libraries and works of fiction are not included.



THE PARLIAMENTARY LIBRARY, OTTAWA

Dominion Libraries.—An Australian parl. library was begun in 1902, and in 1917 was divided into a parl. section and an Australian section; the latter developed into a national library for Australia, holding the copyright privilege for the country. Other L. are maintained by the states independently. In New Zealand Auckland has the largest free public library and the chief academic library is at Otago Univ., Dunedin. In Canada Ontario has sev. fine L., including the Library of Parliament at Ottawa, the Legislative Library of Ontario at Toronto, and those of Queen's Univ. at Kingston and of Toronto Univ. Those in Quebec include those of McGill Univ., of St. Sulpice Seminary and of the Fraser Institute at Montreal, and of Laval Univ. at Quebec. The oldest S. African public library is at Cape Town, estab. in 1815 and holding copyright privilege for Cape Prov. Together with the Pretoria State Library it forms the National Library. Also there are L. in the legislatures, the parl. library at Cape Town being prominent. There are univ. L. at Pretoria and

Cape Town. The Royal Library at Cairo contains 500 papyri and 23,000 MSS., as well as books. In the K. and India there are L. in the Royal Asiatic Society's branches in many important towns, including Singapore and Rangoon. Tanjore Library possesses a remarkable collection of MSS. In 1923 was formed the All-India Public Library Association for the development of public L. The Imperial Library at Calcutta, with over 152,000 vols., is the chief library of the Indian continent.

United States of America.—According to the International Index the U.S.A. has 905 L. and a total number of vols. of over 81,000,000; 173 L. have over 100,000 vols., and six have more than 1,000,000 books. There are five working literary centres—Washington, New York, Boston, Chicago and San Francisco. The Library of Congress, which is the national library of the U.S.A., is the third largest in the world. It was founded in 1800, and shortly afterwards incorporated Jefferson's Library of some 7000 vols. It now contains nearly 6,000,000 vols., and about 2,000,000 pamphlets. Its collection of MSS. is also notable. It receives a copy of every book copyrighted in the U.S.A. Nearly 200,000 vols. are added to the library each year. Washington has eight other L., each with an average of 250,000 vols., as well as a large number of smaller and specialised L. In New York three L. have over 900,000 vols., and half the books in N. Amer. L. are in New York, which possesses also ten medical L., eighteen law L., among other first-class research L., chief being that of the Amer. Museum of Natural Hist., and the Morgan Library, with its valuable bibliographical section. In Boston Public Library there are 1,500,000 vols., while the library of the neighbouring Harvard Univ. houses 2,500,000. Harvard Univ. Library is the foremost univ. library in America, and in historical resources rivals the Congress Library and the New York Public Library. Beside six law L., six medical L., and eleven theological L. there are about 100 other special L. Chicago has a great public library, with nearly 1,500,000 vols., and its others include the John Crerar, the Newberry, and that of the univ. The L. of San Francisco suffered severely during the earthquake, April 18, 1906. The city has, however, two univ. L., those at Stanford and the Univ. Library. In Sacramento is a state library, while others include the Huntington Library and the Hoover War Library. Notable recent events in Amer. library hist. are the erection of the new central library building of Brooklyn, and the completion of the library of Congress annexo with an estimated book storage capacity of 10,000,000 vols., and the opening of the Rundel memorial building (Rochester Public Library).

Austria and Hungary.—The Imperial Public Library at Vienna is said to date from 1440, and to have been founded by the Emperor Frederick III. It contains a portion of a famous medieval collection, that of Matthias Corvinus of Hungary.

Its printed vols. number over 1,000,000, with nearly 30,000 MSS. It also lends vols.

France.—The Bibliothèque Nationale (q.v.) is one of the great L. of the world and has of all great L. the longest hist., though it may not be true that it dates from the collections of Charlemagne or of St. Louis. What is certain is that it contains a very large number of the collections of the Fr. kings, and that it represents the Bibliothèque du Roi of times anterior to the Fr. Revolution. It contains upwards of 4,000,000 vols., a magnificent collection of MSS., prints, medals, and maps. Other great L. are those of the Arsenal, confiscated at the revolution, the Mazarin Library, and that of the univ., originally that of the Sorbonne, founded in 1762. Others are the Sainte-Geneviève Library, the library of the French Senate; the library of the Museum of Natural Hist.; and the Hist. Library of the Ville de Paris. The International Index gives France 390 libraries with a total of over 26,000,000 vols.

Germany.—Berlin possesses in the Royal Library, founded by Frederick William, the Great Elector, in 1661, one of the largest L. of the world. It possesses nearly 1,500,000 printed vols. and over 30,000 MSS. The new building housing this was opened in 1909. It is remarkable for its ready access to the public and its lending powers to borrowers. Other great state Ls. are those at Munich, Dresden, Leipzig, Stuttgart, etc., while the univ. and municipal Ls. are exceedingly numerous, well managed, and equipped with ample funds. Modern improvements have, in recent years, before the outbreak of the Second World War, been effected in the Hamburg and Jena Popular Library, and in the Kiel Municipal Library. Altogether Germany has 273 L. mentioned in the Index, with nearly 11,000,000 vols.

Italy. Chief in antiquity, in wealth of MSS. and printed rarities, and of inexhaustible treasures of archives and historical and other works, is the library of the Vatican at Rome. Its early hist. is broken by the removal of the popes with the books to Avignon, and its modern hist. dates back to the Renaissance popes, of whom may be mentioned Nicholas V., Sixtus IV., and Sixtus V., the founder of the present building in 1584. Printed books are said to number 400,000, MSS. nearly 10,000, of which the famous *Codex Vaticanus* of the Bible stands first, together with the great MSS. of Virgil, Terence, etc. The library is open to the public, and since the papacy of Leo XIII. the archives also with certain reservations. Next in importance both historically and for its invaluable contents is the Biblioteca Mediceo Laurenziana at Florence, containing the collections of Cosimo, Pietro de' Medici, and Lorenzo the Magnificent. It was opened to the public in 1571, and contains some of the most precious classical MSS. in existence, including over 700 dating from before the eleventh century, and in addition a fourth-century Virgil and a tenth-century Homer. The largest modern library in Italy is the Nazionale Centrale Vittorio Emanuele at Rome,

founded 1875, with nearly 1,000,000 vols. Other important national or municipal L. are at Naples, Florence, Milan, etc., while all over Italy are numerous anct. L., containing great treasures, such as the specimens of early printing at Subiaco, the famous Biblioteca Ambrosiana at Milan, the great collection of archives, bulls, papal briefs, charters, etc., at Monte Cassino. Italy has 185 L. and 15,000,000 books in the International Index.

Spain.—The Biblioteca Nacional, Madrid, represents the former royal library, and contains some 600,000 vols., with 30,000 MSS. The Escorial Library, once one of the greatest in Europe, suffered from fire and robbery after the Fr. invasion of 1808.

Low Countries.—The Belgian chief state library is the Bibliothèque Royale, Brussels, of which the nucleus was the library of the dukes of Burgundy and the archives of the Sp. occupation. A new national library was planned for Brussels as a memorial to King Albert, but the Ger. occupation of the country in 1910 prevented the erection of the building. The chief library of the Netherlands is the royal library, Koninklijke Bibliotheek, at The Hague, founded in 1794. The library of the academy at Leyden, founded in 1575, is one of the most famous early L., and there are also the great L. of the univ. of Utrecht (1582) and Amsterdam (1578).

Russia.—Of the great L. of the world the public library at Leningrad is one. It contains nearly 2,000,000 vols. and 31,000 MSS.

The Public Library Movement.—The estab. of L. free and open to all ratepayers by municipalities out of funds provided by the rates was first authorised by the Public Libraries (England) Act, 1850, largely due to the efforts of Wm. Ewart, M.P. for Dumfriesshire, although a public library, claimed to be the first in England, was instituted for the citizens of Warrington, Lancashire, in 1845. The benefits of the Act were extended to Ireland in 1853. At first the rate was limited to 4d. in the £, but it was extended to 1d. in 1855. The right to establish was and is permissive and not compulsory, and until 1893 the power of adopting the Act was left to a vote of the ratepayers; now, except in rural par., the power rests with the local authority. Except in certain places, where exceptional powers have been granted, as in Birmingham, the 1d. rate was the limit of the funds to be disposed of, a fact which kept many municipal L. far below their proper and useful standard. Public L. generally contain a reference library, to which free access is given but no books are lent, a newspaper and magazine room, and a lending library, from which ratepayers may borrow books. Andrew Carnegie gave great encouragement to the public library movement by his presentation of the buildings to many municipalities adopting the Acts. The limitations imposed upon the public L. in 1910 involved many of them in imminent bankruptcy, and a sub-committee of the Reconstruction Committee of 1917, the war intervening, made strong

recommendations for relief. As a result the Libraries (Public) Act of 1919 removed two of the prin. hindrances to their development. One was the abolition of the limit of a library rate of one penny, and the other was the removal of the ban on the setting up of rural L. by co. councils. Co. councils were empowered to adopt the Library Acts for those dists. within their area which had not already done so, and the co. L., as they have come to be known, have made rapid progress. They establish branches in their own buildings in the larger vils. and small tns., and in school-rooms or other suitable places in other centres, and carry out the periodical exchange of book stocks. A further facility for the provision of the more expensive books to readers is made by the National Central Library, which has obtained undertakings from a large number of L. to lend their books through its agency, so that a borrower may apply through his local library, and the book he requires will be obtained regardless of distance. This system is being further extended by the compilation of joint catalogues of non-fiction books covering large areas, so that if possible a book may be supplied from the immediate neighbourhood before the request is transmitted to London. The National Book League renders most useful service to its subscribers by the pub. of bibliographies and 'readers' guides' on a wide variety of subjects, the books chosen being those of estab. authorities and the titles scientifically classified. All the metropolitan bors. have adopted the Libraries Acts, and there are over 100 public L. within the administrative co. To-day there is a very important and valuable movement for co-ordination between the public L. of London and the cos. Most L. specialise in some particular subject, usually of local association, and contiguous L. are now forming pools, so that each may have recourse to the resources of the others. Most public L. have returned to the 'open access' system. A recent development is the institution of children's L., and most L. have a special room where children may sit in comfort and read from an extensive range of children's books. The Amer. Library Association, the official organisation of librarians in the U.S.A. and Canada, was founded in 1876. It is assisted by over fifty voluntary committees and boards, and has a membership of 16,000. The analogous organisation in Great Britain is the Library Association (q.v.), founded in 1877 and incorporated in 1898. See also CATALOGUES AND CATALOGUING.

See E. Baker, *The Public Library*, 1924 and *The Uses of Libraries* (2nd ed.), 1930; Gwendolin Rees, *Libraries for Children*, 1924; Board of Education's Departmental Report on Public L., 1927; and the pub. of the Library Association (e.g. *The Year's Work in Librarianship*, 1929 ff.); Sir F. G. Kenyon, *Libraries and Museums*, 1930; A. Sadleir and M. Burton, *The World's Great Libraries*, 1934-37; L. R. McColvin, *Libraries and the Public*, 1937; *The Public Library System of Great Britain*, 1942, and, with J. Revis, *British Libraries*, 1946;

J. W. Thompson, *The Medieval Library*, 1939; A. Esdalle, *The British Museum Library*, 1946; and R. G. Ralph, *The Use of Libraries in Education*, 1949.

Libraries, Friends of the National. This society was founded in 1931 to assist national and other libraries by promoting the acquisition of books and MSS. of importance, by arranging photographic reproduction when originals are unavailable, and by co-operation with the National Art Collections Fund in cases of MSS. and books with an artistic as well as historical or literary value. Funds are acquired by gifts, bequests, and special appeals, and in 1947-48 £963 was spent on the purchase of books. Examples of its work are the contribution of £500 towards the purchase of the *Sherborne Cartulary* for the Brit. Museum, and £50 towards that of the *Shrewsbury Cartulary* for the National Library of Wales.

Library Association. The L. A. was founded in 1877 and incorporated by royal charter in 1898, its prin. purposes and powers being to unite all persons engaged or interested in library work; to promote the better administration of libraries, and the improvement of the position and qualifications of librarians; to hold examinations in librarianship and to issue certificates of efficiency; and to promote and encourage bibliographical study and research. The association has a total of 9000 personal and institutional members, including nearly 600 from countries outside the Brit. Isles. It maintains the Register of Chartered Librarians of whom there are 2800 fellows and associates. Ten branches and five sections serve the local and special interests of members respectively. Professional examinations are held twice yearly in June and December.

Library of Congress. see LIBRARIES, *United States of America*.

Libration. This term is applied to a small irregularity, compounded of the moon's rotation round her axis and her orbital motion, by means of which her visible hemisphere is not always quite the same. The mean revolution of the moon round her axis is the same period of time as her mean revolution in her orbit. If both motions were equable the moon would always present the same face to a spectator placed at the centre of the earth, on condition that the plane of her equator passed through the centre of the earth. None of these conditions being exactly fulfilled, and the variations being small and periodic, the consequence is that a small portion of the moon's surface in the E. and W. edges, and also in the N. and S., is alternately visible and invisible. The maximum L. longitudinally is a little short of 6° 50' and latitudinally is as much as 7° 53'.

Libretto (dimin. of It. *libro*, a book), text of a dramatic vocal work, especially an opera. The author of such a text is called the librettist. Some of the more famous Its. who composed operatic libretti were Rinuccini (who collaborated with Peri), Caccini, Monteverdi, and Gasilano; Apostolo Zeno, who lived in Vienna and

Venice as court poet; Metastasio, whose texts were set by many important composers including Gluck and Mozart; Lorenzo da Ponte, the author of Mozart's *Don Giovanni*, *Le Nozze di Figaro*, and *Così fan tutte*; Romani, associated with Bellini and Donizetti; Boito and Piave (with Verdi); Illica and Giacosa (with Puccini). Among the Fr., Quinault as Lully's librettist was famed for a century and a half; Scribo wrote texts for Moyerbeer, Halévy, Auber, Boieldieu, and Verdi. Wagner was his own librettist. Hugo von Hofmannsthal collaborated with Richard Strauss in most of that composer's more celebrated stage works, including *Rosenkavalier*, *Elektra*, *Ariadne auf Naxos*, *Die Frau ohne Schatten*, and *Arabella*.

Libreville, tn. of Gabun, Fr. W. Africa, is situated on the N. shore of the Gabun estuary. It is the cap. of the Fr. settlements in the gulf of Guinea and was founded in 1849. It has a shipping industry. Pop. 3000.

Libya and **Libyan Desert**, anct. Gk. name for the N. part of Africa, including Egypt; Homer mentions the land as very fertile. In Rom. hist. the name applied only to the region now known as the Libyan Desert, a huge plateau rising gradually to 1000 ft. above the Nile in stony terraces. The present L. lies along the N. coast from Tunis to Egypt and comprises Tripolitania and Cyrenalca. The coastline is 1100 m. and the area 680,000 sq. m. There are sev. famous oases, the largest being Kharga, easy of access from Ahvados and Thebes; others are Dakei, Farafra, Bahariyah, and Siwah; they are well supplied with springs and are exceedingly fertile; their occupation goes back to remote antiquity. Further to the W. the Libyan Desert merges with the trackless silence of the Sahara. L. was annexed by Italy, following war with Turkey, in 1911. In the course of operations (which relied mainly on the naval blockade of Tripoli) Benghazi was captured by Gen. Ameglio (Oct. 20). This was followed a few days later by the fall of Derna. By the end of the year Italy was in formal possession of all the coast lns. of Turkish N. Africa and then organised an expeditionary force for a movement into the desert interior. The 'pacification' of the Arab tribes was no easy matter, but it was eventually accomplished by Gen. Graziani, who employed methods of the utmost brutality (see also GRAZIANI). L. became a major theatre of operations in the Second World War (see AFRICA, NORTH, SECOND WORLD WAR CAMPAIGNS IN). After the war a Brit. military administration was estab. until such times as the United Nations could decide on the future of L. In 1949 Cyrenalca achieved independence under the rule of the Emir Sayyid Idris al-Senussi. The Fezzan was administered by the Fr. as part of Algeria. In the Mediterranean zone of L. fruits, cereals, and dates are produced; tobacco, salt, leather goods, and carpets are other products. Pop. about 1,000,000. See R. A. Bagnold, *Libyan Sands*, 1935; D. Campbell, *Camels through Libya: a Desert*

the liquor traffic. Practically the whole law in England on the acquisition, retention, and forfeiture of the right to sell to the public intoxicating liquors, subject to a payment to the State in the form of excise licence duty, and the performances of various conditions is now contained in the Licensing (Consolidation) Act, 1910, and the Licensing Act of 1921. The Act of 1910 does not apply to Scotland, but the law applicable to that country is practically the same in principle.

The basis of Eng. licensing law is the control of the sale of liquor by granting licences (generally speaking) only to persons who have obtained a justices' licence authorising them to hold an excise licence. Justices' licences are available only for one year, and must be annually renewed at the licensing sessions. There is no right of appeal from a refusal, except in the case of old licences, when an appeal lies to quarter sessions. A licence may be forfeited by the holder if convicted of permitting premises to be used as a brothel, harbouring thieves, allowing seditious meetings to be held on the premises, selling or exposing liquor he is not authorised to sell, permitting gaming, or allowing bad characters to resort to the house, and other serious offences. It is a fundamental condition of the grant of a licence that liquor be sold only upon the premises and during certain hours. The Licensing Act of 1921 abolished the old-time 'closing hour,' but limits the sale of liquor to what are called 'permitted hours,' and thus leaves the publican free to keep his premises open for the sale of food and non-intoxicants at any hour of the day or night. By the present law justices at the general ann. licensing meeting have, within certain limits, the power of determining the hours during which the sale of intoxicating liquor on the licensed premises is permitted within their dist. on weekdays. The hours of sale, or 'permitted hours,' must be on weekdays, eight hours in ordinary dists., and nine hours in the metropolis, subject to the proviso that in any licensing dist., if they are satisfied that the special requirements of the dist. make it desirable, the justices may substitute eight and a half for eight hours. The justices in any dist. outside the metropolis may extend the permitted hours, in their discretion, to eight and a half hours a day, provided that no sale shall take place earlier than 9 o'clock in the morning or later than 10.30 at night, and that there shall be a break of at least two hours in the afternoon. In the metropolis the permitted hours may, in the justices' discretion, continue until 11 p.m. On Sundays, Christmas Day, and Good Friday the permitted hours are five only, of which not more than two shall be between 12 noon and 3 p.m., and not more than three between 6 p.m. and 10 p.m. In Wales and Monmouthshire there are no permitted hours on Sundays. These regulations apply both to on-licences and off-licences.

The Licensing (Consolidation) Act, 1910, contains important provisions regarding the sale or supply of intoxicating liquor

to children and young persons. Contraventions are punished by a fine of £1 for a first and £2 for a second or any subsequent offence. The Act of 1921 provides that no one may sell or supply liquor from a van, barrow, or basket, unless the liquor has been previously ordered and the quantity and price, together with the name and address of the person to whom it is to be supplied, has been entered in a delivery book carried by the deliverer, and in a day book kept on the premises. Under the same Act, too, no person may sell or supply to any person, as the measure of intoxicating liquor for which he asks, an amount exceeding that measure—commonly known as the 'long pull.' Conviction for either of these last two mentioned offences may entail a fine up to £30. Imprisonment may be given as an alternative, together with forfeiture of the licence, or cancellation of the liquor, or unlimited disqualification to hold a licence again. There are also a number of regulations as to the sale of liquor in clubs. Under the Licensing Act, 1921, a club in which the sale of intoxicants is made only as part of a meal may sell intoxicants for the space of one hour after the close of the permitted hours for the dist., and where liquor is supplied during permitted hours a further half-hour is allowed to the member for the consumption of that liquor, provided it is taken with a meal. Under the Licensing Act of 1919, bottle parties may not serve drinks after 2 a.m.

Generally speaking a retailer cannot obtain an excise licence until he has been granted a licence by the justices at brewster sessions, i.e. the special ann. meetings of the local justices held for the purpose of granting or renewing licences authorising the grant to him of an excise licence. The grant of a new justice's licence by the licensing justices must be confirmed by the 'confirming authority' (or sessions), who may refuse to confirm even if the grant is unopposed; but it is essential that those who occupy the position of a confirming authority should not only be unbiased, but so related to the matter as to be free from any reasonable suspicion of bias. (Lord Hewart, L.C.J. in *R. v. Sheffield Confirming Authority*, 1937.) The applicant for a manufacturer's or dealer's licence requires no authorisation from justices. Again retail liquor licences for the following places can be obtained from an officer of customs and excise without previous authority from the justices—Theatres, passenger vessels, railway restaurant cars, and naval and military canteens; while occasional licences are authorised by consent of a petty sessional court.

Manufacturers' licences relate to either spirits, beer, or sweets, and expire on Sept. 30 each year. The penalty for manufacturing spirits, beer, or sweets without a licence is £500. A distiller, rectifier, or compounder of spirits must take out a licence annually. Spirits means any fermented liquor containing a greater proportion than 40 per cent of proof spirit. Beer includes ale, porter,

spruce beer, black beer, and any liquor made or sold as a description of, or as a substitute for, beer, and which, on analysis, yields more than 2 per cent of proof spirit. Sweetened liquor made from fruit and sugar that has undergone a process of fermentation; it includes Brit. wines, 'made wines,' and methylin. Licences for wholesale dealers in spirits, beer, wine, or sweets must also be taken out annually. (Occasional licences are granted for cricket matches, flower shows, gals, and similar festivities.

The penalty for dealing without a licence is £100. Retailers' licences are either on-licences, i.e. for sale of liquor for consumption either on or off the premises, or off-licences, for consumption off the premises only. The term 'publican's licence' is exclusively appropriated to a retailer's on-licence for spirits, and the expression 'fully licensed premises' means premises to which a publican's licence is attached. A person who holds a publican's licence may sell by retail beer, cider, wine, and sweets, as well as spirits, without taking out any further retailer's licence. The penalty for selling by retail without a licence is either £50 or a sum equal to treble the full duty.

A reduction in duty is allowed in the case of (a) fully licensed premises and beerhouses of an ann. value exceeding £500; (b) hotels and restaurants; (c) premises used for any purpose to which the holding of a licence is merely ancillary, i.e. theatres, law courts, public gardens, picture galleries, and exhibitions; (d) refreshment rooms at a railway station. See also LIQUOR CONTROL.

Lichens, very large order of lowly plants resistant to extremes of heat and cold, and probably with a wider distribution than any other form of plant life. They are common objects on walls and rocks and on trees, to which some of them frequently do much injury. The majority, however, are not parasites, but, when present in abundance on the bark of trees, prevent it from performing its functions, and shelter numerous forms of injurious insect life. The most injurious lichen known is the red rust of the tea plant (*Cephalosporium myricoides*). Lichen is composed of a fungus and one or more single-celled or thread-like algae, which combine to form an excellent example of *symbiosis*, since neither is parasitic but both are equal partners in the life of the plant. The function of the fungal half of the partnership is to propagate itself by spores and to envelop and protect the algal cells and supply them with water. These can only grow by division, and in their turn manuf. the food for the whole lichen by absorbing carbon dioxide from the air, which is broken up under the influence of light into starch or lichenin. Some L. are of economic value. In the Arctic regions they frequently act as an important source of animal food, and have more than once saved the lives of explorers whose provisions were exhausted. The most important of these is the reindeer 'moss' (*Cetraria rangiferina*). *Rocella tinctoria*, which grows on rocks by the coast, is a

source of litmus, while other L. yield such dyes as orchil, cudbear, and orseille. There are some 2000 Brit. species of L. One of the most beautiful is *Cladonia cornucopioides*, which is common on heaths. See G. Masec, *British Fungi*, with a Chapter on Lichens, 1911.



LICHEN

Lichfield, municipal bor. and cathedral city of Staffordshire, England, lies in the valley of the Trent, 15 m. S.E. of Stafford. The cathedral, in the Decorated style, dates from the twelfth century and has a valuable library. It is the only Eng. cathedral with three spires. Together with many interesting monuments and memorials it contains a masterpiece by Chantrey, 'The Sleeping Children.' Addison, Garrick, and Dr. Johnson were educated at its grammar school. Valuable new coal seams were discovered in May 1949 at Whittington Heath, near L. by the Geological Survey of Great Britain. The seams lie at a depth of 3000 ft. and at the present rate of mining will add at least another eighty years of coal production in the dist. The total deposits may well be of the order of 4,000,000,000 tons, but the full extent of the new coalfield has not yet (1949) been ascertained. Pop. 9800.

Lichi, or **Leechee**, tree of the soapberry family, grown chiefly in China and S. Africa. Its aromatic fruit, which is enclosed in a thin, nut-like shell, is regarded as a delicacy whether eaten raw or preserved.

Lichnowsky, Karl Max, sixth Prince (1860-1928), Ger. diplomatist, b. at Kreuzenort, son of Karl, fifth Prince L. He entered the Ger. Foreign Office in 1884, and, after twenty years in various embassies and legations, retired in 1904. In 1912, however, he was appointed ambas. to Great Britain. The revelation of Ger. policy after the Sarajevo murders of 1914 came as a shock to him, and he privately printed a pamphlet called *Meine Londoner Mission, 1912-14*, which one of his friends pub. without his consent in 1918, with the result that L. was expelled from the Prussian Upper House and fled to Switzerland. Fuller revelations of his attitude may be found in his book trans. into Eng. as *Heading for the Abyss* (1928).

Lichtenberg, Georg Christoph (1742-1799), Ger. philosopher and satirist, b. near Darmstadt. He frequently visited England and gathered materials for his famous explanations of Hogarth's pictures, *Ausführliche Erklärung der Hogarth'schen Kupferstiche* (1794-99). His work includes philosophical essays, witty burlesques, satirical writings, and physical investigations, especially into electricity. His *Gesammelte Schriften* (14 vols.) appeared in 1844-53, his *Briefe* (1901-4), and his *Aphorismen* (1902-8). *Briefe aus Lichtenbergs englischen Freundeskreis* were ed. by H. Hecht in 1925. See R. M. Meyer, *Swift and Lichtenberg*, 1886, and M. Donke, *Goethe und Lichtenberg*, 1935; also studies by A. Leitzmann, 1899; E. Bertram, 1919; and O. Dencke (vol. i.), 1944.

Lichtenburg, tn in the Transvaal, S. Africa, 120 m. W. of Johannesburg. It was the centre of a remarkable diamond rush in 1926. Pop. 5860 (European 3280; native 2300; others 275).

Lichtenstein, tn. of Saxony, Germany, 45 m. S.E. of Leipzig, has a famous old castle. There are manufs. of linen and paper- and cotton-mills. Pop. 6000.

Licinius (Publius Flavius Galerius Valerius) (263-324), emperor of Rome, was a Dacian peasant and received his preferment at the hands of Galerius, on whose death in 307 he was made Augustus. L. shared his rule with Constantine, whose sister, Constantia, he married. The two emperors quarrelled and went to war; Constantine was victorious at Hadrianople and Chalkedon in 323, and caused L. to be put to death in the following year; the young L., son of the emperor, was murdered about the same time.

Licking, riv. in Kentucky, U.S.A., rises in the E. of the state, flows N.W. to the Ohio, which it joins opposite Cincinnati. It is 220 m. long and navigable for 70 m.

Lick Observatory, on Mt. Hamilton, California, U.S.A., was built at a cost of \$140,000 according to the bequest of James L. (1796-1876), an Amer. financier and philanthropist. It stands at an altitude of 4280 ft., and contains the vault of its founder. The observatory now belongs to the univ. of California. A 120-in. reflecting telescope has been installed which enables observation at 900,000,000 light years distance.

Lictors (Lat. *ligo*, to bind, probably with reference to the bound rods or fasces borne by them), civil officers amongst the anc. Romans, who were required to attend before the consuls or magistrates to clear the way. It was also their business to inflict corporal punishment and to perform executions.

Liddell, Henry George (1811-98), famous as the collaborator, with Dean Scott, in the compiling of the (ik. Lexicon. From 1816 to 1855 he was headmaster of Westminster School, dean of Christ Church from 1855 to 1891, and vice-chancellor of Oxford, 1870-74. Besides the valuable Lexicon he wrote a *History of Rome* (1855).

Liddesdale, or **Lidsdale**, beautiful dist. of the Eng.-Scottish border, is the valley traversed by Liddel Water, a union of small streams which flows through Rox-

burghshire from the S.W. of the Cheviot Hills and joins the Esk, 12 m. N. of Carlisle. In the valley is Hermitage Castle, a massive thirteenth-century stronghold.

Liddon, Henry Parry (1829-90), Eng. divine, b. at N. Stoneham, Hampshire. Appointed prebendary of Salisbury Cathedral in 1861, and in 1870 became canon-residentiary of St. Paul's Cathedral. His sermons, lectures, and writings, all of a High Church tendency, had a remarkable influence on the religious thought of the period. At the time of his death he was engaged on a life of Dr. Pusey, which was finished by other hands and pub. in 1893-1894. See J. O. Johnston, *Life and Letters of Henry Parry Liddon*, 1904; also life by G. W. E. Russell, 1905.

Lidford, see **LIDFORD**.

Lidford Law, an O.E. proverb ran:

'First hang and draw,

Then hear the cause by Lidford law.'

The term thus came into use to mean hang a man first and try him afterwards. The theory is that it arose from the very arbitrary procedure of the Stannary courts in the Devonshire tn. of Lidford.

Lidgett, John Scott (b. 1854), Brit. Methodist church leader and social reformer, b. at Lewisham. He entered the ministry by way of Univ. College, London, and for fourteen years was minister at Southport. One time vice-chancellor of London Univ.; associated with Hugh Price Hughes in the movement for the improvement of the industrial classes. He will, however, be best remembered as the man who, in 1891, in conjunction with Dr. Moulton, founded the Bermondsey Settlement, of which he held the wardenship from 1891 to 1919, and also as the guiding spirit in the movement which resulted in the union of the three Methodist denominations of which he became the first president.

Lidice, vil. of Bohemia, Czechoslovakia, in the Kladno coal-mining area, the scene of a Ger. crime against humanity during the Second World War. Heydrich (q.v.), the notorious 'protector' of Ger.-occupied Bohemia-Moravia, was killed by a bomb thrown at his car as he was leaving Prague (May 27, 1942). The Gestapo alleged that the vil. of L. was harbouring the men who had killed Heydrich. As a consequence all the male inhab. of L., numbering about five hundred, mostly coal-miners and steel workers, were shot, the women sent to concentration camps where many d., and the children put in 'educational centres.' The buildings of the vil. were destroyed, and the Gers. erased the name of L. from all official records. The total pop. of L. was nearly 2000. Later the smaller vil. of Ležaky in the Chrudim industrial dist. was subjected to the same fate as L. on the charge that the inhab. had sheltered parachutists alleged to have plotted the attack on Heydrich. The first house of a new vil., planned at Columbia Univ., was occupied in 1949. Many places abroad took the name of L., as did a co. of Quebec.

Lido sandy ls. in the N. of Italy,

between the R's Brenta and Piave separating the lagoons of Venice from the Adriatic Sea. It is a popular Venetian watering place. In the Second World War the convent of S. Nicolo was badly wrecked by Ger. troops. The name L. has been applied to bathing resorts in sev. countries.

Lie, Jonas Laurits Idemil (1833-1905) Norwegian novelist, *b.* at Ficker near Drammen. In 1866 he pub. a vol. of poems and in 1870 his first novel *Den fremmede* (Eng. trans. *The Visionary* 1891), a melancholy romance which made him famous. He spent his time there after between Italy, Germany, Paris and the Tyrol, not finally returning to Norway until 1891. During these years he pub. *Fremmede Fremtiden* (Eng. trans. *The Barque 'Future'* 1879), *Todsen og hans Husfru* (*The Pilot and His Wife* 1874), his first really great novel *Laustna Strømer* (a verse drama, 1876), *Rullant* (1881), *Gaapaa* (1882), *Fusslaen* (1883), *Familien paa Gyle* (1883), *Maister* (1885), *The Commodore's Daughters* (Eng. trans. 1892), *Noble* (1893), *Dyre Tot* (1896), *East Forland* (1899), *The Consul* (1901), and many others. See lives by A. Carborg 1893 and L. Lie 1909.

Lie, Marcus Sophus (1812-99) Norwegian mathematician *b.* at Nordfjordeid near Bergen. He was educated at the Univ. of Christiania where a special chair of mathematics was created for him in 1872. In 1856 he was appointed prof. of geometry at Leipzig. He pub. *Theorie der Transformationsgruppen* (1885-93) and *Vorlesungen über Differentialrechnung mit bekannten Infinitesimalen Transformationen* (1891).

Lie, Trygve (*b.* 1896) Norwegian lawyer and statesman *b.* at Grorud near Oslo and educated at Oslo Univ. studied as a barrister. He joined the Norwegian Labour party in 1919 and later became its legal adviser. From 1933 he served in the Norwegian Gov. being successively minister of justice, commerce, and supply and becoming minister of foreign affairs in 1941. This office he held until 1946 when he resigned on being appointed the first secretary-general of the United Nations Assembly.

Lieber, Thomas, see **LIEBIG**.

Liebermann, Max (1847-1913) (crit. painter and etcher native of Berlin). He was a pupil of Steiner and in 1869 studied at the School of Art at Weimar. His best subjects show the influence of J. Israels and of humble folk in the vils. and fields of Holland besides factory life in Germany. Some of his finest paintings are 'Flax Spinners' (Berlin National Gallery), 'The Woman with Goats' 'An Asylum for Old Men' and 'Labourers in a Turnip Field'. See lives by M. J. Friedländer, 1924 and H. Ostwald, 1930.

Liebhaf, Joachim, see **CAMPBELL**.

Liebig's Condenser, apparatus used to convert a vapour into the liquid state by cooling with the aid of water. There are sev. other kinds of condenser all founded on the same principle—vapour passing through a tube and being cooled by water, but L's C. is convenient when larger

quantities of a liquid are to be distilled. The apparatus consists of a glass tube enclosed in a jacket through which a constant stream of cold water is passed. The liquid to be distilled is contained in a distilling flask provided with a side tube which is passed through a cork in the condenser. In the neck of the flask a thermometer is supported by a cork, so as to enable the boiling point of the liquid to be determined.

Liebig, Justus, Freiherr von (1803-75) Ger. chemist *b.* at Darmstadt. At an early age he displayed a love of natural science, and in 1819 was sent to the Univ. of Bonn, going from there to Erlangen, where he took his doctor's degree in 1822, publishing a paper on 'vulminating mercury



JUSTUS LIEBIG

the same year. He then went to Paris where he made the acquaintance of Humboldt and Gay Lussac. At the recommendation of the former he was made prof. of chem. at the Univ. of Giessen, where he attracted students from all parts of Germany and other European countries. In 1852 he became a prof. of chem. at Munich. At the outset of L's career chem. was in its infancy but at the time of his death it had developed beyond all expectations. He estab. the first laboratory where students could receive thorough practical training and introduced the well known method of organic analysis. One of his favourite branches of research was the phenomena of animal and vegetable life and he was the first to prove that the activity of physical and chemical forces is the same in the organised as in the mineral world. He caused great developments in agriculture by the use of fertilisers and invented meat extract and baby food. His prin. work was *Chemistry in its Application to Agriculture and Physiology* (1840), and he also wrote *Animal Chemistry or Chemistry in its Application to Physiology and Pathology* (1842), a *Dictionary of Chemistry* (1857), *Familiar Letters on Chemistry* (1844), and

Researches on the Chemistry of Food (1847); most of which have been trans. into Eng. and Fr. See J. Vogel, *Liebig als Begründer der Agrikulturchemie*, 1874; A. W. Hofmann, *The Life-work of Liebig in Experimental and Philosophic Chemistry*, 1876; and W. Ostwald, *Grosse Männer*, 1909; and lives by R. Blunck, 1938, and R. Schenk, 1941.

Liebknecht, Karl (1871-1919). Ger. Socialist. b. Aug. 13, son of Wilhelm L. (q.v.). He practised at the Berlin Bar. In 1907 he pub. a pamphlet against militarism, for which he suffered two years' imprisonment. Member of the Prussian Diet in 1908 and of the Reichstag from 1912. He served on the W. front in the First World War. Expelled from the Reichstag, April 1916, for a speech on gov. finance, and in the autumn he received a sentence of four years' penal servitude for 'attempted high treason,' being released in Oct. 1918. Heading Spartacist rising, he was arrested Jan. 15, 1919, in Berlin, and on the way to Moabit Prison was shot dead probably by police, who said he tried to escape. His fellow prisoner, Rosa Luxemburg, was killed during the same journey. See M. Adler, *Karl Liebknecht und Rosa Luxemburg*, 1919, and life by W. Swienty, 1931.

Liebknecht, Wilhelm (1826-1900), Ger. social democrat, b. at Giessen. Imprisoned for his share in the Baden revolt of 1848, he escaped, going first to Switzerland, then to London, where he worked for Ger. newspapers and associated with Marx and Engels. In 1862, after the amnesty, he returned to Germany, but was banished from Berlin and Prussia for Socialist agitation. In 1864 he entered the N. Ger. Parliament, and in 1868 began to edit, with Hebel, the *Demokratisches Wochenblatt*, an attack on Bismarck in its pages led to their imprisonment for two years. On his release L. entered the Reichstag, remaining a member almost uninterruptedly for twenty-five years. He ed. the *Berlin Vorwärts*, and in 1895 was imprisoned for four years on a charge of *lese-majesté*. He pub. sev. works. See life by K. Eisner, 1900.

Lieber, Thomas, see ELIAS-Us.

Liechtenstein, small European principality, bounded on the N.E. and E. by the Austrian Tyrol and Vorarlberg, on the S. by the Swiss canton of Grisons, and on the W. by the Rhine, which separates it from the canton of St. Gall. It covers an area of 65 sq. mi., and has a very mountainous surface, the Alps here reaching an elevation of 8500 ft. Vaduz is the cap., and the constitutional monarch is a prince of the royal house of L., which dates back to the twelfth century. Until the dissolution of the Austrian empire L. was closely associated with the latter. Since Jan. 1, 1924, the state has belonged to the Swiss customs and administration dist. After the Ger. annexation of Austria Nazi influences were evident but the independence of the country was preserved. Rev. international financial bodies installed their headquarters in the principality so as to avail themselves of its low taxation and neutral status during the Second World

War. Pop. 12,200. See E. Hinderer, *Reiseführer für Liechtenstein*, 1935, and H. Hiltbrunner, *Fürstentum Liechtenstein*, 1946.

Liedekerke, small tn. of Brabant, Belgium, situated 12 m. W. of Brussels, and engaged in agriculture. Pop. 7700.

Liège (anc. *Leodium*, Flemish *Luik*, Ger. *Lüttich*): 1. Prov. of E. Belgium, almost bisected by the R. Meuse, and bounded on its E. side by Germany. This prov. offers very different aspects. Coal is found along the Meuse valley, where subsequently the iron and glass industries were centred. In its S. part are extensive quarries of freestone. The phosphate of lime abounds in the fertile Hesbaye plateau, where sugar beet is the most important crop and where the refineries are situated. In the N.E. is rich grass-land and the breeding of horses, cattle, and pigs is carried on. In the S.E. rises the high plateau of the Ardennes with the highest point of this prov. and of Belgium, the Botrange (2275 ft.). The wool industry is highly concentrated in the Vesdre valley round Verviers. Since the tenth century L. has been a mighty eccles. principality. In 1795 it came under France. In 1815 it was given to Holland and it became a prov. of Belgium in 1830. The inhab. are mainly Walloons. In 1920 the Ger. dists. of Eupen and Malmédy were ceded to Belgium and incorporated in the prov. of L. (see EUPEN). Area 1140 sq. mi. Pop. (1918) 963,850. In April 1919 minor border revisions, aiming to clear up confused enclave situations, added about 16 sq. mi. of Ger. ter. with 500 inhab. to the prov. of L. 2. Cap. of the above, on the Meuse, almost opposite the valleys of the Vesdre and Ourthe, 51 m. S.W. of Brussels. It is one of the most important cities of Belgium and has a pop. of about 156,200. Together with its suburbs, Angleur, Aus, Bressoux, Chénée, Crèvecoeur, Herstal, Jemeppe, Jupille, Montegnée, Ougree, St. Nicholas, Seraling, and Tilleur, there live 362,000 people on about 43 sq. mi. The city itself contains many interesting old churches dating from the tenth, eleventh, and twelfth centuries. The cathedral (formerly St. Paul's Church) was rebuilt in the thirteenth century. The chief secular building of L. is the magnificent old palace of the prince-bishops. It dates from the tenth century, was ravaged sev. times by fire, and rebuilt for the last time in the sixteenth century. The edifice covers an area of about 17,400 sq. yds. and accommodates at present the prov. gov., the law court, and the archives. L. has a univ. founded in 1817, sev. interesting museums, and a conservatoire. Two forts of its anc. fortifications remain, and it is a bishop's see. It is the bp. of Grétry, a famous Belgian composer. Among the products of its intensive hardware industry the chief is firearms. Other manufs. are zinc, machinery, textiles, caoutchouc, and sugar. Situated on a navigable riv. linked by the Albert Canal with Antwerp and junction of international railways, L. is an important trade and transportation centre.

Liège, Siege of (Aug. 1914).—The Ger.

war plan for an offensive against France envisaged the violation of Belgian ter. in order to give their right wing sufficient space in which to swing round and eventually envelop the Fr. left. L. was protected by a ring of outer forts all of pre-1911 design and armament. The Ger. force entrusted with the siege was under the command of Gen. von Emmich (q.v.) and one of his staff officers was Ludendorff (q.v.). The Gers. crossed the frontier on Aug. 4, 1914, and met with considerable opposition from the Belgians. Roads were strongly barricaded, and the intervening space between the forts was occupied. Eventually each fort fell, crumbled by the huge howitzers of the Gers., which, till then, had been a secret. Ludendorff, on his own initiative, had collected the scattered remnants of companies and regiments and organised them into a fighting force. He was then given command of a brigade, with which he broke through the interval between Forts de Fléron and d'Evegnée and reached La Chartreuse. In this position he was quite isolated from the rest of the Ger. force, but soon the grille of forts was pierced and L. was entered on Aug. 7, 1914. Some forts, although completely surrounded, continued to resist, under the heroic command of Gen. Leman, until Aug. 14, when his headquarters, the famous fort of Loncin, occupied by 300 men, was blown up. The delay, however, caused by the Belgian stand proved invaluable to the Allies (see FORTIFICATION: FRANCE AND FLANDERS, FIRST WORLD WAR CAMPAIGN IN).

Second World War (May 1940). As L. was again a key position at the end of the strategic Albert Canal, its fortifications were completely rebuilt and modernised. A second time the defending troops had to withdraw, on May 13, threatened with encirclement by Ger. units, which had crossed the canal to the N. The forts, however, resisted again as long as possible and gave no rest to the advancing Gers. The fort of Pepinster continued firing until May 29, the day after the capitulation of the Belgian Army. After its liberation on Sept. 8, 1944, L. and its suburbs suffered much from flying bomb and rocket attacks. See also FORTIFICATION: FRANCE AND FLANDERS, SECOND WORLD WAR CAMPAIGN IN.

See G. Kurth, *La Cité de Liège au moyen âge*, 1910; T. Gobert, *Liège à travers les âges*, 1923-30; and P. Pourmarier and L. Denoel, *Géologie et industrie minière du pays de Liège*, 1930.

Liegnitz (Polish Legnica), tn. of Polish Silesia, formerly of Prussia. It was captured by the Russian forces under Gen. Roniev on Feb. 22, 1915. The tn. stands on the Kutzbach, 38 m. N.W. of Breslau. It is an important industrial centre, its products including textiles, leather, machinery, and cutlery. Pop. 77,000.

Lien, right to retain the goods of another pending payment of a debt due either in respect of the goods retained, or on a general account between the parties. *Is.* are either possessory, maritime, or equitable. Possessory *Is.* are divided

into (a) *Particular*, i.e. give a right to retain the particular goods in connection with which the debt arose. Such a *L.* may be provided for by express agreement, or it may be implied. The law implies a *L.* where skill has been exercised on the goods, or the creditor has been compelled to receive them. Examples of particular *Is.* are those of an innkeeper over his guest's luggage for payment of board and lodging, a shipowner over the cargo for his freight, a common carrier for goods carried, and wharfinger for goods warehoused, and the unpaid vendor's *L.* under the Sale of Goods Act. (b) *General*, i.e. give a right to retain not only for the debt arising in connection with the goods retained, but for a general balance of account. Such a *L.* arises either from trade custom (see CUSTOM), or express agreement. Bankers, solicitors, dyers, factors, and stockholders have the right to exercise a general *L.* A possessory *L.*, generally speaking, carries with it no right to sell the goods retained unless such right is conferred by statute. Innkeepers and wharfingers may sell, and so may the unpaid vendor.

Maritime Is. include those of seamen for their wages, a master for his wages, and disbursements in and about the cargo, a salvor, the owners of a ship which has been damaged in colliding with another ship by the default of the latter, and a bottomry bondholder (see BOTTOMRY). The right is exercisable over the ship and its cargo, and far from depending on the possession of the thing over which it exists, as in the case of a possessory *L.*, it is said to follow the thing wherever it goes. Among conflicting maritime *Is.* priority is given in the inverse order to that in which they arose. (See the principle under BOTTOMRY.)

Equitable L. exists independently of possession, and is in the nature of a right arising out of a trust created by agreement, express or implied. For example, the *L.* of a trustee on trust property for his costs and expenses, of a vendor of land for unpaid purchase money. *L.* may be lost by surrender of possession.

Liepaja, Libau, or Libava, seaport of Courland, in the Latvian S.S.R., on a bank separating Lake Libau from the Baltic Sea, 105 m. S.W. of Mitau. Improvement of the harbour commenced with the charter of municipal freedom, granted in 1625. In the nineteenth century L. rivalled Königsberg in importance, and with the construction of the L.-Vilna-Bakhmaz-Romny line, completed in 1904, L. became the direct exit for S. Russia. L. was also the terminus of Russian overseas lines. The Russians also built a large naval harbour, but it was not much utilised, owing to international complications. With the temporary achievement of Latvian independence L. passed out of Russian hand: but its importance as a port remained. L. suffered little during the First World War; during the Second World War it was captured by the Gers. at the end of June 1941 and liberated by the Russians in May 1945, and suffered heavily from bombing by both sides.

The whole harbour is open the year round, and the depth of the fairway is 26 ft. The chief industries of the tn. are wood, metal, paper and printing, and leather, 'Libava kid' being world famous; there are chemical works, breweries, and iron foundries. Pop. 57,000.

Lier (Fr. *Lierre*), city of Belgium, 10 m. S.E. of Antwerp is a charming place situated at the confluence of the Great and Little Nete, forming together the R. Nete (q.v.). Noticeable buildings are the tn. hall with belfry (1269-1411), the collegiate church (1377-1455), and the Zimmertoren, containing an interesting astronomical clock and a museum. The picturesque *Béguinage* (convent) dates from the thirteenth century. The chief manufs. are shoes, lace, embroideries, instruments of brass, and cutlery. Pop. 28,900. See S. Leurs and J. A. Goris, *Lier in Ars Belgica*, vol. iii. Antwerp, 1935.

Liestal, or Liesthal, cap. of Basle-land, Switzerland, 8 m. S. of Basle. It is a health resort, frequented for its medicinal springs. It manufs. textiles. Pop. 5000.

Lieutenancy, Commission of, name given to the body of commissioners who take the place of a lord-lieutenant in the city of London. They are sometimes called deputy lords-lieutenant, but this is an incorrect designation, as, although they perform the duties of a lord-lieutenant, they are commissioners appointed annually (as a rule) by the Crown; deputy lords-lieutenant, on the other hand, are appointed by the lord-lieutenant. The difference between the city of London and the rest of England is that in the former the L. is 'in commission.' It is noteworthy that under the commonwealth the Ls. of all the cos. were in commission, as Cromwell refused to recognise lords-lieutenant and appointed commissioners in their stead.

Lieutenant and Second Lieutenant (Army) (Fr. *lieutenant*, from Lat. *locum tenens*, holding the place of another), officers in the Brit. Army next in rank to a captain. The former are 'subaltern officers,' the latter 'subalterns.' The name L. is given to them because they 'understudy' the troop, squadron, or company commander, commanding themselves platoons or equivalent sub-units. Second Ls. were formerly called cornets or ensigns, except those of fusilier regiments, who were called second Ls., but when an alteration was made in 1871, those appointed before Aug. 26, 1871, or from the Sandhurst 'A' list, were made Ls. as from Nov. 1, 1871, those appointed after Aug. 26, 1871, were sub-Ls. The latter rank was altered in 1877 to second L., which, after being abolished from 1881 to Jan. 1887, is now in force. The duties of Ls. and second Ls. are identical. A L. of the army is of co-ordinate rank with a sub-L. of the navy and with a flying officer of the R.A.F.; a second L. ranks with a commissioned officer from warrant rank of the navy and with a pilot officer of the R.A.F.

Lieutenant (Navy). In the R.N. a L. holds intermediate rank between a sub-L. and a L.-commander. A young naval

officer first serves as a cadet or midshipman and then passes through the ranks of acting sub-L. and sub-L. He then qualifies in various courses of instruction, including such subjects as navigation, pilotage, and gunnery, and is then promoted to L., his seniority being according to the results of the examinations. Sub-Ls. and Ls. rank with Ls. and captains in the army, according to seniority in their respective ranks. There are also the ranks of instructor-L. and engineer-L.

Lieutenant-Colonel, see under COLONEL.

Lieutenant-General, see under GENERAL.

Lievín, tn. in the dept. of Pas-de-Calais, France, 11 m. S.W. of Bethune. It is the centre of a mining dist. Pop. 28,800.

Li-fan Sze-tu, see SZE-TU.

Life, see BIOLOGY.

Life Assurance, see INSURANCE.

Lifeboats, boats specially designed for saving life in cases of shipwreck, etc. The first in-sunderable boat was built in 1785 by K. Lukin, a London coachbuilder, encouraged by the Prince of Wales, but it was not until the wreck of the *Adventure* off S. Shields in 1789 stirred up public feeling that any great interest was manifested in the question. A prize was then offered for the best lifeboat, and Henry Greathead was commissioned to build a boat embodying the best points of his own prize-winning plans and those of Wm. Wouldhave. The principles of Wouldhave's lifeboat were not universally adopted until the *Providence* capsized at the mouth of the Tyne in 1849 and twenty of her crew lost their lives. It was then that the first self-righting lifeboat was built. The power to self-right is obtained by the two air chambers, or high 'end-boxes,' as they are called, which are the distinguishing feature of the self-righting lifeboat, and by a heavy keel, weighing from one-fifth to one-third of the boat's total weight. These high end-boxes, exposed as they are to the wind and the sea, make the self-righting lifeboat less easy to handle in heavy weather; and though she will come right way up as soon as she capsizes, she is, in fact, more liable to capsize than the lifeboat which cannot self-right. These, although once they go over they have no chance of self-righting, are much more stable.

In 1890 the first steam lifeboat was designed. She was propelled, not by screws, but by a powerful pump, which drew in water through an opening in the bottom of the boat and discharged it at the sides. It could take in a ton of water in a second and drive the boat at nine knots. Altogether six steam Ls. were built, some with pumps and some with screws. Motor Ls. are taking the place of all others. The first lifeboat to be converted into motor power was completed in 1904 and sent to Tynemouth. She had a 12-h.p. two-cycle motor. To-day the Royal National Lifeboat Institution maintains 154 motor L. and two pulling and sailing Ls. on the coasts of Great Britain and Ireland.

Through its ability to attain a speed and to cover distances impossible for boats which depend on sails and oars, and its

power against a heavy sea, the motor lifeboat with heavy oil or petrol engines, has been able to save lives that could never have been saved by the older boats. Fewer boats are required, as two boats can now safeguard a bay that once required five or six. The cost, however, is greater. The first lifeboat cost £150. One new type of lifeboat, introduced in 1917, is a cabin craft with two 40 h.p. Diesel engines. Oil-spray, radio set, loud-hailer, line-gun, and searchlight are carried. The modern motor lifeboat costs from £10,000 to £11,500, but a newly designed lifeboat, fitted with a deck cabin, built for St. Helier, cost £18,000. In addition the bouthouse and launching

The Royal Institution for the Preservation of Life from Shipwreck, now the Royal National Lifeboat Institution, was founded by the efforts of Sir W. Hillary, T. Wilson, and G. Hibbert in 1824. The institution has always been dependent on voluntary subscriptions. Since 1824 75,690 lives have been rescued from shipwreck; nearly £600,000 (the income of the institution in 1947 was £819,911; expenditure, £579,937) a year is required to maintain the lifeboat service. It gives rewards for rescues and attempted rescues. It compensates those injured in the service, and pensions the widows and orphans of those killed in its duties. The U.S. Life-saving Service was introduced in



THE LIFEBOAT OF ST. HELIER, JERSEY (1949)

The *Elizabeth Rippon* can take 95 on board, and is the first to be fitted with a deck cabin. The whole superstructure is built of aluminium alloy.

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slipway, which are as essential as the L. herself, may cost as much as or more than the boat. Only the best materials are used in the construction of a lifeboat, and each boat has to be passed as efficient by an inspector before being used. The carriage of a lifeboat is a necessary adjunct where it is necessary to launch boats at a distance from the boat-house. Tilling's sand-plates are a great aid on soft and sandy beaches. They consist of an endless platelay or jointed wheel tyre fitted to the main wheels of the carriage.

LSs must be carried on board ships in sufficient number to accommodate crew and passengers. The *Queen Elizabeth* has twenty-eight steel Ls, powered by Diesel engines, fireproof and virtually unsinkable, carrying 145 passengers; equipment includes provisions, charts, radio, distillation plant, etc. Oil-tanker Ls are specially constructed to permit launching into an oil-covered sea. Launching is effected electrically, or by gravity as in the *Queen Elizabeth*.

1871, and both in equipment and efficiency has reached a very high standard; it is subsidised to a great extent by Congress. The life-saving societies of both France and Germany date from 1865, and are supported by voluntary contributions.

The Second World War saw the introduction of airborne Ls to rescue air crews, and the first was used operationally in May 1913. The most efficient type is constructed of two mahogany skins; buoyancy chambers to ensure self-righting are inflated automatically when the lifeboat is dropped on parachutes from the transporting aircraft. Sails and a 4-h.p. engine are provided, as well as radio, provisions, etc.

See J. C. Lamb, *Life-boat*, 1911; A. J. Dawson, *Britain's Life-boats*, 1923-1923; 1923; J. E. B. Seeley, *Launch*, 1932; C. Smedley, *Grace Darling and her Times*, 1932; C. E. T. Lewis, *Lifeboats and their Construction*, 1935; and J. G. Cumming, *Literature of Lifeboats*, 1936-37.

Life Guards, premier corps of the Brit. Army, taking precedence over all other regiments. Their duty is to attend the sovereign, as their title shows, 'life' being a corruption of the Ger. *Leib*, body, the L. G. thus being the bodyguards of the king. The origin of the L. G. dates back to 1660, when they were formed as a bodyguard to Charles II., being principally composed of the cavaliers who followed his fortunes in exile, and retaining for many years a certain superiority of personnel. Each regiment of the L. G. carries four standards; their motto is that of the sovereign, 'Dieu et mon Droit.' They fought at Dettingen, the Peninsular war, Waterloo, Tel-el-Kebir, and in S. Africa. On the outbreak of the First World War squadrons from the 1st and 2nd L. G. and the Royal Horse Guards were formed into a composite regiment for active service, and at once proceeded to France, and joined the 4th Cavalry Brigade, in Gen. Allenby's div. Its first action was in the retreat from Mons; then it took part in the battle of the Marne (q.v.) and the general advance. In Oct. 1914 it moved northwards and came under Sir Douglas Haig's command, and took part in the first battle of Ypres, immediately followed by the defence of Messines. While the composite regiment was in France a Household Cavalry Brigade had been forming in England, into which were drafted officers and men of Line Cavalry Regiments. This brigade went to the relief of Antwerp on Oct. 7, 1914, but arrived too late, and withdrew down the coast until it joined the allied forces about Ypres. On Nov. 7 the brigade won distinction by driving the Gers. out of a gap they had made between Cavan's right and Demoussy's left at Klein Zillebeke. In the course of the campaign the Household Brigade, in common with all cavalry, was converted to an infantry status, and, later, organised machine-gun squadrons. Further honours were gained in many battles, notably on the Somme, at Albert, Arras, the Scarpe, Passchendaele, Hindenburg line, and Cambrai.

In the general reduction of the army after the First World War the 1st and 2nd L. G. were amalgamated and designated 'the L. G.' and the Royal Horse Guards (the Blues) were reduced in strength. (For the services of the Household Cavalry in the First World War, see Sir G. Arthur, *The Story of the Household Cavalry*, vol. III., 1926.) In the Second World War the L. G. and Royal Horse Guards forming the 1st Household Cavalry Regiment, served in Palestine with the 1st Cavalry Div. The unit was soon mechanised, and saw service in Iraq, Syria, N. Africa, Italy, and Europe. A second regiment, formed in 1910, fought as an armoured car unit with the Guards Armoured Div. in the liberation of Europe. After the war the L. G. resumed their mounted ceremonial duties at Windsor and London.

Life insurance, see *UNDER INSURANCE*.
Liferent, in Scots law a right for personal servitude analogous to the Rom. *usufructus*, to use and enjoy a thing during

life without thereby destroying or wasting its substance. It mainly applies to heritable subjects, because a L. can hardly subsist in things which are consumed by use. But there is authority for saying that it may apply to household furniture or other things which wear out in process of time. A L. in a stock farm would be construed to mean that the liferenter must leave the stock at the close of his period of enjoyment substantially of the same descriptive value and extent as at entry, and a L. of money would give the interest to the liferenter. Ls. are divided into legal and conventional. Legal Ls. comprise (a) *terce (tertio)* or right of a widow, or wife who has divorced her husband, to one-third of the husband's heritable subjects, and (b) *courtesy* or right given to the surviving husband of all his wife's heritage, provided issue of the marriage was *b. alive* (i.e. has been heard to cry). Conventional Ls. are said to be either simple or by reservation. The former are constituted by grant by the proprietor completed by infeftment; in the latter the proprietor reserves to himself a L. in the same writing by which he conveys the fee of the land to another. See W. Gloag and R. G. Henderson, *Introduction to the Law of Scotland* (11th ed. 1916, by A. D. Gibb and N. M. Walker).

Life-saving and Rescue Apparatus. Maritime practice includes rocket apparatus, lifebelts, rafts, buoys, bells, etc. The prin. means of saving life near the coasts of Great Britain is the first-named. In 1807 Capt. G. W. Manby introduced the 'mortal' apparatus, which preceded the use of rockets. By this a line was fired over the wrecked vessel by means of a mortar; in 1814 there were forty-five mortar stations in England, and Capt. Manby was awarded a grant of £2000. John Dennet of Newport introduced the rocket system, and by 1853 there were 120 stations in the United Kingdom fitted with the apparatus. The rocket invented by Capt. Boxer was adopted in 1855; this is a combination of two rockets in one case, so that when the first rocket has carried the line as far as it can, the second adds an impetus to it, and a greater range is thereby attained. There are five parts to the rocket apparatus, the rocket, the rocket-line, the whip, the hawser, and the sling lifebuoy. The rocket to which the rocket-line is attached is fired over the wreck. The crew of the latter haul in the whip, which is an endless line rove through a block with a tail attached to it; the tail is detached and fastened to some portion of the ship high above the water, such as a mast. The hawser, to which is hung the travelling lifebuoy, is then hauled off to the wreck by the rescue party. The persons on the wreck then travel one at a time to shore in the lifebuoy. The rocket apparatus of Great Britain is the exclusive property of the Board of Trade, and is managed by the coast-guard service. Next in importance comes the lifebelt. Every man engaged in lifeboat work must wear a lifebelt or life-preserver, a canvas jacket, the lining of which is stuffed with cork or with rubber material that can be

'calls' in floor sequence independently of the order in which the car or landing buttons have been pressed. Landing doors provided with locking devices which prevent the L from being operated unless all doors are closed and prevents a door being opened unless the car is opposite that door. Modern Ls have power operated doors which may open and close automatically or under the control of the L attendant. The car is equipped with a safety device which clamps the car to the guides in the event of rope failure or of excessive speed when descending when overspeed on governor is provided. Ls may be provided with illuminated indicators to show the position of the car in L well and its direction of travel or the direction of a car that is about to stop at landing. Ls are now frequently provided with automatic leveling equipment which ensures that the car steps level with the floor independently of the load or direction of travel. On high speed Ls hydraulic buffers are installed to reduce impact should the car overrun its normal limits of travel.

Hand power Ls are mainly used for the conveyance of meals and light loads where the service is infrequent. They are manually operated by means of an endless rope running in a V-grooved pulley that is mounted on a shaft which carries another V-grooved pulley over which passes the rope that connects the car to the counterweight. For the larger sizes of handpower Ls it is common practice to incorporate speed gearing in the winding mechanism.

Hydraulic Ls may be direct acting in which the car is attached to the top of a ram which works in a hydraulic cylinder sunk beneath the L. Another form of hydraulic L is the suspended type in which the car is attached to a set of ropes that is led to a hydraulic cylinder and ram mounted on the wall of the L. Ls providing the cylinder and ram with an arrangement of multiplying pulleys or relatively short cylinders may be employed. These Ls can operate at speeds as high as 400 ft per min and the cars are provided with safety devices to prevent accident through rope failure. Hydraulic Ls however are now only installed to meet special circumstances. In electrically driven Ls were used but to day electrically driven Ls are usually arranged in pairs so that one acts counterbalancing the other.

Lifu, see under TOVATY ISLANDS.

Ligament band of fibrous connective tissue connecting the ends of bones and sometimes enveloping the joints. Most Ls are composed of white fibrous tissue which is made up of fibres running parallel to each other so as to form a compact structure. Such are the Ls around the joints. Other Ls are composed of yellow elastic tissue which is specially adapted to support a continuous but varying stress, as in the Ls connecting the various cartilages of the larynx. Ls are also classified as *funicular*, or cylindrical cords, *fascicular*, or flattened bands, and *capsular*, or enveloping Ls completely investing a joint.

Ligan, or **Lagan**, see FIORAM.

Ligno, pueblo of the Philippine Is. lies in Albay prov. Luzon, on the Quinali R. Rice, coconuts and abaca are grown. Pop. 18,000.

Ligature (Lat *ligatura* a band) cord band or thread used fortyingabout arteries or other vessels to occlude them temporarily or permanently. A L may be *provisional* if it is applied during an operation with the intention of removing it after the operation has been performed. If a L is tied so as to prevent discharge from a vessel until a wound has been healed it is usual to employ pure silk or catgut for the purpose so that it may become absorbed as the necessity for the L passes away. In other cases silver wire is used as it is not likely to lead to mucous irritation. For temporarily arresting the circulation of a limb as when an artery is severed a tourniquet, which can be tightened by turning a stick thrust between the band and the limb, is employed. Other Ls of rubber are used to compress a part so tightly that the tissues are destroyed, fistula is cured and growths are removed by this means.

Ligature, in music a slur or tie indicating that a group of notes is to be played collectively or in vocal music sung in one breath. In instrumental music the term marks the phrasing.

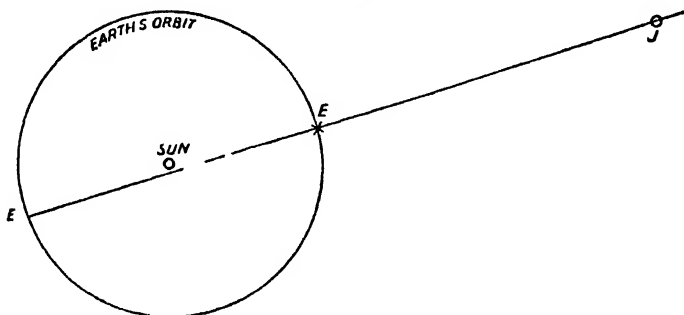
Light, agency that produces the sensation called sight. Certain bodies such as the sun, lamps, fires, etc. are said to emit light or to be self-luminous. Most objects, e.g. the walls of a room, grass, trees, human beings, books, etc. are rendered visible by light reflected by them from self-luminous bodies. In the absence of such reflection light from objects can not be seen. The branch of physics that deals with the theory of L is concerned with the propagation of the properties of L and with the physical nature of L. The emission of L from self-luminous bodies is an atomic phenomenon that received a satisfactory explanation at the hands of Einstein, Bohr, and others by means of the quantum theory. Similarly the absorption of L and in particular the emission of electrons from a metallic surface illuminated by L (photoelectric effect) was explained by the quantum theory. Certain properties of L have been explained only on the hypothesis that L is propagated as electromagnetic waves. Thus the quantum theory accounts for the emission and absorption of L while the electromagnetic theory accounts for the propagation of L. The two theories are irreconcilable however and the present theoretical research on wave mechanics is an attempt to find a formula for the solution of the difficulty. The reader is referred to the articles on RADIATION and QUANTUM THEORY for further discussion of this problem. L travels through empty space with a velocity of 186,000 m per second so that it travels from the sun to the earth in rather more than 8 min. Its speed in air and other gases is slightly less than this, but in transparent substances such as glass and water its speed is con-

siderably diminished. Thus in water its speed is less than 140 000 m. per second. This diminution in the speed of L as it passes from one transparent medium to another is responsible for the phenomenon of refraction that causes for example, a stick to appear bent when partially immersed in water and governs the behaviour of lenses. Reflection of L takes place at the surface of separation of two media. For the laws of refraction and reflection see the articles on these subjects.

Newton first analysed white light by means of a prism purchased at Stourbridge fair. The analysed light consists of an infinite number of colours, that lie between what we call red and violet

mission and reception are achieved. The L waves that affect our sense of vision on the other hand, are extremely short by comparison with ordinary objects and they do not bend round them appreciably. Hence light travels very approximately in straight lines. Diffraction of L waves takes place appreciably when the obstacle is very small and not very much larger than the wave length of these waves. The diffraction ($q.v.$) grating provides such obstacles and analyses white L by virtue of the fact that the diffraction effect is greater the longer the waves. The diffraction grating thus enables us to measure the wave lengths of L with precision.

The phenomenon of *interference* ($q.v.$) is produced when L waves from two suitable



MEASURING THE VELOCITY OF LIGHT

Astronomers have as it were measured the velocity of light by the method of the transit of Venus. When at its minimum distance from the Earth, Venus passes between the Earth and the Sun. The distance between the Earth and the Sun is about 149 597 870 km. The diameter of the orbit is 179 500 000 km. Light travels 180 000 km per second.

These are the 'colours of the rainbow' and are produced in the same way. The wavelength of red light is about 7×10^{-7} metres, while that of violet light is about 4×10^{-7} metres. These wave lengths have been determined with great precision by means of the interferometer ($q.v.$). Electromagnetic waves of wave lengths lying between the above limits cause the sensation of colour when they enter the eye and are said to lie in the visible spectrum. Waves of greater wave length than 7×10^{-7} metres may affect our sense of heat (infrared waves) and longer waves of the same type are used in communication with radar and broadcasting. Again electromagnetic waves of wave lengths lying between 10^{-10} and 10^{-12} metres are X rays, and still shorter waves are the rays from radioactive substances. Ultra violet waves, known to medicine, are about 3.5×10^{-7} metres long and the shortest known waves are about 4×10^{-12} metres long. They are the cosmic rays discovered by Millikan. Wireless waves are so long by comparison with terrestrial objects such as houses and buildings that they are diffracted, i.e. they can bend round them, in this way wireless trans-

mitters are superposed and it is possible to obtain darkness by such superposition. The colours of soap bubbles and other thin films such as oil and petrol on a road are due to interference of L waves and may be polarised. In electromagnetic waves the vibrations are at right angles to the direction of propagation of the waves. The vibrations may be in any one of the infinite number of directions at right angles to this direction of propagation. When L passes through a crystal, the vibrations are confined to one of two given directions and if L passes through two crystals suitably cut the emergent waves are polarised, i.e. there is only one direction of vibration. It is interesting to note the contrast between L waves and sound waves—the vibrations in the latter are longitudinal, i.e. they are in the direction of propagation. Sound waves therefore cannot be polarised.

Optics is a very ancient branch of physics. It is stated that a lens of rock crystal was found in the ruins of Nineveh while Aristophanes mentions the use of burning-glasses in *The Clouds* (Act II). Reflection and refraction were known to the Greeks of

300 B.C. and theories of vision were formulated by the Pythagoreans and the Platonists. Cleomedes, a Roman of the time of the Emperor Augustus, following Ptolemy, extended the knowledge of refraction and explained that atmospheric refraction enables us to see the sun after it has set. De Haen (about tenth century A.D.) wrote a book on optics, and, in addition to advancing the knowledge of reflection and refraction, made a close study of the optics of the human eye. Roger Bacon (thirteenth century A.D.) made notable contributions and prophecies in optics, some of which bore fruit when Galileo constructed one of the first telescopes in 1609. Snell of Leyden discovered the law of refraction about this time, and Newton explained it by the assumption of a corpuscular theory of L. According to this theory a luminous body emits swarms of corpuscles that travel in straight lines through the all-pervading ether. Huygens, a contemporary of Newton, formulated a wave-theory of L., but Newton's great contributions to the knowledge of L., combined with his great reputation, caused his theory to be favoured, and it was left to Fresnel (1788-1827) and Young (1773-1829) to establish Huygens's theory by the evidence of their experiments on diffraction and interference, and the explanation (by Fresnel) of the possibility of the propagation of L. in straight lines in normal circumstances (see above). The nineteenth century saw the development of the elastic solid theory of the ether, the medium through which L. was propagated, but this finally gave place to the electromagnetic theory following *Murphy's* theoretical researches supported by the accurate determinations of the velocity of L. The present difficulties attending the subject have been mentioned earlier in this article. The reader is also referred to the articles on AETHER, AETHER, ABSORPTION, DIFFRACTION, DISPERSION, FLUORESCENCE, POLARISATION, SPECTRUM, X-RAYS, etc.

See (elementary) E. J. Holmvard and F. Barraclough, *Heat, Light and Sound for Beginners*, 1931; F. A. Jenkins and H. E. White, *Fundamentals of Physical Optics*, 1937; (advanced) A. Schuster, *Introduction to the Theory of Optics*, 1904; R. A. Houston, *A Treatise on Light*, 1927; T. Preston, *The Theory of Light*, 1925; F. C. Champion, *University Physics* (Pt. I, Light), 1911; and E. J. Bowen, *Chemical Aspects of Light*, 1916.

Light Balls were formerly used in time of war to obtain information as to the enemy's position and occupation. They were of various kinds; thus one L. ball consisted of a canvas sack filled with an illuminating material and thrown among the enemy's working parties at night, or into their entrenchments, etc. L. B. containing illuminants were also fired from mortars, as were parachute L. B. These contained a lightly folded parachute, to which was attached a cup filled with some illuminating composition. On the bursting of the fuse the composition caught fire, and on the opening of the parachute afforded a view of the enemy for a

longer time than an ordinary 'ground' L. ball.

Lightcliffe, eccles. par. in the W. Riding of Yorkshire, 2½ m. E. of Halifax. Pop. 3000.

Light Cure, see FENNER, N. R.

Lighter and Lightermen. Lighters are strong, heavy, flat-bottomed boats for transporting cargo to and from ships or docks. They are usually open, but some have a deck and large covered hatches. They are either furnished with mast and sail or else oars or sweeps are used; some are fitted for motor or steam propulsion, but many are towed. Lightermen are those employed in or about lighters. Thames Lightermen are licensed by the Watermen and Lightermen's Company, incorporated in 1827.

Lightfoot, John (1602-75), Eng. divine and rabbinical scholar, b. at Stoke-on-Trent. He took orders and became chaplain to Sir R. Cotton in London, who, in 1630, presented him to the rectory of Ashby in Staffordshire. His first pub. work, *Frühling, or Miscellaneous, Christian and Judaical, poems for recreation at various hours*, appeared in London in 1629. His next pub. was *A True and Accurate Observations upon the Book of Genesis* (1642). In 1643 he was made rector of St. Bartholomew's Church, near the Exchange. In the same year he sat in the Westminster Assembly. In 1650 he was appointed master of St. Catherine Hall, Cambridge, and four years later vice-chancellor of the Univ. The best ed. of his work is by J. R. Pitman (1822-25). See life by D. M. Welton, 1878.

Lightfoot, Joseph Barber (1828-89), Eng. prelate and theologian, b. in Liverpool. In 1861 he was made Litcham prof. at Cambridge, and shortly afterwards he became chaplain to the prince consort. In 1871 he was made a canon of St. Paul's Cathedral, and in 1879 accepted the bishopric of Durham. He left a number of important theological works, the chief of which was his *Apostolic Fathers* (2nd ed., 1890). He also wrote *Ignatius and Polycarp* (1885) and commentaries on the Epistles. See W. Sanday, *Lightfoot as a Historian*, 1890; also life by B. F. Westcott, 1890.

Lighthouse, building erected to carry a light for the purpose of warning and guiding mariners as to their position and course. From very ancient times towers were erected with beacon fires, those built by the Libyans and Cushites in Lower Egypt being perhaps the earliest. The first beacon which was regularly maintained for the benefit of mariners was probably that referred to by the Gk. poet Lesches at Sigoum in the Troad. The Pharos of Alexandria, built in the reign of Ptolemy II. (283-247 B.C.) by Straton of Cnidus, was one of the seven wonders of the world, and 'pharos' was for long used as a generic term for a L. The Emperor Claudius built a tower at Ostia in A.D. 50, and other noted Ls. of the Roma. were those at Ravenna, Pozzuoli, and Messina. The earliest Ls. in W. Europe were those at Boulogne (La Tour d'Ordre) and at Dover

(the Pharos), built by the Romans, who are also presumed to have erected *Is.* at Holywell and Flamborough Head. The earliest example of a tower exposed on all sides to the onslaught of the waves is the *L.* of Cordouan, built on a rock in the sea at the mouth of the Gironde; the first *L.* at this point (805) is attributed to Louis le Debonnaire. Many towers with braziers were built at various positions on the coasts of Europe during the seventeenth and eighteenth centuries, such as those at Tynemouth (c. 1608), *St. Bees* (1718), and the Lizard (1751) in the United Kingdom. The Boston Light on Little Brewster *Is.*, Massachusetts, is the oldest in the U.S.A., dating from 1716, and the present structure from 1859; other early *Is.* were erected at Beaver Tail, near Newport (1710), and at Brant in Nantucket Harbour (1754). *Is.* may be divided into two categories according to whether they are built on rocks, etc., exposed to the sea, or on the shore; the latter class are naturally more numerous. The former class vary in structure and design according to the special considerations of locality, foundations, etc.; they may be divided into four classes: those built of masonry or concrete, those built of openwork steel or iron on pile foundations, cast-iron plated towers, and structures on cylinder foundations. Masonry towers are built when the foundation is good; the chief points to be observed are as follow: the centre of gravity should be as low and the foundations as deep as possible, and the structure should be of a circular plan. The lower portion should present a vertical face to the waves, and the upper portion should be either straight with a uniform batter, or continually curved in the vertical plane. There should be no projections save a gallery under the lantern, and the height should be sufficient to prevent the spray reaching the latter. The stones, especially those on the outer face, should be dovetailed or joggled; recently concrete and reinforced concrete have been used in construction. The second class of *Is.* is suitable for shoals, coral reefs, etc., where the bottom is insecure or sandy, as iron or steel piles can be driven in and the structure built thereon. The third class is erected in situations where the cost of stone or the scarcity of labour renders masonry expensive. Cylinder or caisson foundations are used where it is desired to erect a substantial structure on sand-banks, shoals, etc., as in the case of the *Rothersand Tower* (see below). Some of the more important of exposed *Is.* are as follow: *Eddystone L.*, the present structure, built by Sir J. N. Douglass, dates from 1882; previous *Is.* were built by Winstanley (1698-1703). *Rudverdy* (1709-55), and *Smeaton* (1759-1877). *Hell Rock L.* (1811) off *Portsmouth* has a focal plane 93 ft. above high water. *Skerryvore L.* (1844) off *Argyllshire* has a height of 138 ft., a diameter at the base of 42 ft., and at the summit of 16 ft. *Héaux de Brehat L.* (1853), off the *Île de Ré*, has a height of 86 ft. *Bishop Rock L.* (1858, destroyed during building in 1850) in the *Solify Isles* was strengthened in 1874

and again between 1881 and 1897. *Minot's Ledge L.* (1869) in *Boston Harbour*, Massachusetts, U.S.A., has a height of 89 ft. *Beauly Head L.* (1902) has a height of 103 ft.; the old structure on the cliff had a height of 284 ft. *Rothersand L.* was commenced in May 1881, and was destroyed in Oct. of the same year. The present structure, which was completed in 1885, has a height of 78 ft. above high water, or from the foundation caisson to the top vane a height of 183 ft. Other noteworthy *Is.* are the *Horsburgh*, Singapore (1851); *Small's L.* (present structure 1861); *Dardanus Reef* in the *Red Sea* (1863), the *Wolf Rock L.* (1869); *Dhu Heartach* (1872); *Giant Basses*, Ceylon (1873); *Trong's*, Bombay (1874); *Spartan Reef*, Lake Huron (1871); *Chicken Rock*, off the *Coast of Man* (1871); *Armen*, near the *Île de Sein*, Finistère (1881); *Rattay Head* (1895); *Fastnet* (1904); and *Jumuit d'Ouessant*, France (1911). *Is.* built on land do not present any particular difficulties in construction; the highest is the *Veige Tower* (Finistère), built in 1902, with a height of 247 ft. from ground to focal plane, whilst the *Phare d'Eckmühl* (Penmarc'h, Finistère), 207 ft., built in 1897, is one of the most magnificent of such structures.

Optical Apparatus of Lighthouses.—There are three different systems of lighting, the catoptric, the dioptric, and the catadioptric. In the first the rays of light are reflected only from the faces of mercuries, such as silvered mirrors of plane, spherical, parabolic, or other profile. In the second the rays pass through optical glass and are refracted at the incident and emergent faces. In the third system, which is a combination of the other two, the light rays are refracted at the incident face, are totally reflected internally at the second face, and are again refracted on emergence at the third face. The catoptric system dates from about 1763, the dioptric from about 1786, and the catadioptric from 1823; the two latter were invented by Augustin Fresnel, whose calculations are still used as a basis on the subject. The catoptric system is not very efficient, since only a portion of the light emitted by the light source is reflected. Arrangements of this system are mainly used in light-vessels. When the rays from the source of light are distributed evenly into a belt of light around the horizon, being condensed only in the vertical plane, the light is a 'fixed' light. When the rays are concentrated into a pencil or cone of light directed towards the horizon and caused to revolve round the source of light, the light is a 'flashing light.' For sector lights and those throwing a beam over a wider azimuth than the flashing lights, the rays are condensed, both in vertical and horizontal plane, in such a manner as to concentrate the light over an azimuth of the required magnitude. Fixed lights are now very little used, being converted into occulting lights in many cases by the use of apparatus which enables the light to be cut off when required. Coloured lights are also not much used, as the power of a red light is

only 40 per cent of the same light through uncoloured glass, and that of green only 25 per cent, and a system of reinforcement has to be adopted to make the lights equal in intensity when two colours are used. Lights are divided by the Admiralty into fixed, flashing, and occulting. The distinction between the two latter is simply one of duration. All lights in which the period of darkness exceeds that of light are termed flashing, whilst all in which the light period is longer than the dark are termed occulting. These are further divided into group flashing, fixed and flashing, fixed and group flashing, and group occulting, according to the duration and combination of light and darkness. An 'alternating' light is one in which different colours are shown alternately without an interval; the term 'revolving' is still retained in this country for a light which gradually increases and decreases from eclipse to full, although really coming within the flashing class. A modern development has been the use of automatic control Ls. These are of sev. designs; there is usually a double or triple set of generators, run by petrol or Diesel engines and set to operate on alternate nights, and to take up the load on the failure of the running set. Time switches bring the light into action at set times, and flags and lights are arranged to warn an attendant of any faults. Remote control has also been developed, the controls being operated where necessary by submarine cable, as at the Platte Pongre L. off Guernsey.

Illuminating Agents.—As late as the nineteenth century wood or coal was used to give light in Ls.; smeltion introduced candles. Oil lamps with flat wicks were introduced about 1763, and the invention (c. 1780) of the Argand burner caused a great improvement. Sperma oil was used at first, and later colza oil. In 1868 a burner was invented which would consume hydrocarbon oils (petroleum, etc.). The use of coal gas dates from 1837. Incandescent burners to take coal and mineral oil gas are used. Acetylene is also extensively used, particularly in the case of unattended lights. For this purpose it is in a dissolved form and stored in convenient sized cylinders at a pressure of from 10 to 15 atmospheres. Its light is intensely bright whether plain burners or mantles are used. There are still instances of the use of carbide-to-water generators, but these require considerable attention and consequently are not so economical. The first installation of electric light for L. purposes was in 1858. In the early days the light was produced by arc lamps, but these have now been superseded by high-power, gas-filled, electric-filament lamps, rating from some 15 watts to 6 kilowatts. Besides producing an intensely brilliant light, electrically equipped Ls. are very economical to operate owing to the cleanliness of the plant and the many automatic electric devices which may be used. The current is obtained from a local supply whenever possible, but when this cannot be arranged a small generating set consisting of dynamos

driven by internal combustion engines is installed. In the event of failure of the main electrical supply, storage batteries or an emergency gas burner may be brought into use. Some lenses weigh many tons and are mounted upon a carriage which floats in mercury and is rotated by a simple weight-driven clockwork mechanism. The higher power of electric lamps enables lenses to be smaller and lighter, so that the mercury rotating arrangement can be replaced by a ball-bearing mounting, and the clock by electric motors.

Lightsips, Buoys, etc.—The use of vessels in places where Ls. cannot be erected dates from 1732 (see LIGHTSHIP). The use of unattended lights dates from 1881. Now electric, oil, and gas beacons, fitted with automatic apparatus for lighting, flashing, etc., have been placed at various points, and permanent wick lights, in which the wick is treated so that a deposit of carbonised tar is formed on its upper surface, are also used. The Morrey 'Bar' light-vessel has recently been electrified. Similar apparatus is also fitted to buoys, and electricity is stored in batteries aboard the buoy; other illuminants used include acetylene, kerosene, oil, gas, blue gas, and propane. A plant using dissolved acetylene can be installed in a buoy and may be left unattended for a year. For use in fog many forms of mobile signal have been developed, including explosives, sirens, bells, oscillators, whistles, and diaphones. Radio beacons are also used, and radar is being developed; the Decca system employs radio signals which actuate a special receiver having dials with coloured markings, the relation of these to a special chart giving an exact and instantaneous geographical position.

See the articles on the most important Ls. (EDDYSTONE LIGHTHOUSE, etc.). See also LIGHT.

See 1. Allard, *Mémoire sur l'intensité et la portée des phares*, 1876; T. Stevenson, *Lighthouse Construction and Illumination*, 1881; J. S. Wryde, *British Lighthouses*, 1913; J. W. Corbin, *Romance of Lighthouses*, 1926; R. Wheeler, *Roman Lighthouses at Dover*, 1930; League of Nations, *Records and Texts of the Conference for the Unification of Buoyage and Lighting of Coasts* (Geneva), 1931; G. R. Putnam, *Lighthouses and Lightships of the U.S.*, 1933; R. L. Jones, *Silent Sentinels*, 1944; and articles by Chance, Douglass, Hopkinson, Brebner, and others in *Proc. Inst. Civil Engineers* (vols. xxvi., xxx., xxxviii., lvii., lxxv., lxxxiii., cviii., cxix., etc.).

Lighting, see ELECTRIC LAMPS; ELECTRIC LIGHTING AND HEATING; LIGHTS, ARTIFICIAL.

Lightning, discharge of electricity between two clouds or between a cloud and the earth, the discharge being accompanied by a visible flash. The cause of the discharge is a difference in potential between cloud and cloud or between a cloud and the earth. In dry weather the electrical potential at the surface is positive from without inwards; that is, the atmosphere has a potential positive with

respect to the earth, and the difference of potential increase, with the distance from the surface. Under circumstances which have not yet been fully investigated, the normal exchange of electricity is not sufficient to maintain the usual balance; particles of water charged with electricity coalesce to form drops, so that the charge is spread over a smaller surface, producing in the aggregate a condition of stress which is eventually determined by a lightning flash. Prof. Loeb has suggested that when the cloud has acquired a certain potential a cosmic ray particle ionises the air and causes a 'streamer' of ions to join cloud and earth like a fine filament. Along this path passes the potential wave or 'return stroke' of the main flash from earth to cloud. L. is generally recognised as being of two kinds, *forked* and *sheet* L. The forked variety gets its name from the impression of sharp angles sometimes produced, but careful observation and photographic evidence show that the course is usually sinuous, with occasional branching. The thunder is the noise accompanying the discharge, augmented and prolonged by repeated echoes between cloud and earth. The L. is probably the impression of a flash so far away that the sound waves do not reach the observer; it usually consists of an indefinite illumination towards the horizon, usually reflected from or shielded by clouds. A third variety of L. is sometimes spoken of as *ball* L. This has been attributed to a slow progress of an ordinary flash under abnormal conditions, but the matter is still far from clear. The so-called thunderbolts are usually masses of metal or of earth that have been fused by the electric discharge. Thunder travels at the rate of 1100 ft. per second, so that an approximate estimate of the distance between the observer and the seat of discharge can be made. Thus if there are five seconds' interval between flash and thunder the storm may be said to be a mile away. By counting the intervals between the L. and thunder of successive flashes it can be determined whether a storm is approaching or receding. Isolated storms usually travel with the wind at 10,000 ft., which is often different from the surface wind; storms in belts (e.g. line squalls) are usually associated with transition zones between air masses and move with them. The former generally occur in summer and move slowly (often below 20 m.p.h.); the latter may move much faster.

Effects of Lightning.—When a discharge takes place it is most likely to do so through isolated buildings and trees, or those which project above others. If the material is not a good conductor of electricity injury is likely to be caused by the passage of the electricity. Of all trees the poplar, oak, ash, and elm appear most liable to be struck. Persons may be killed by L. instantaneously. If the shock be not immediately fatal burns, wounds, and loss of special senses ordinarily occur. As the danger to life is usually from shock the patient should be kept warm and stimulants administered. If respiratory action is impaired artificial respiration

should be resorted to and persisted in until the natural function is re-established. L. strokes are of two distinct characters. The A flash is of simple type; protection can be obtained by two or more properly constructed conductors. The B flash is a disruptive discharge which may strike the building in sev. places at once; to obtain security more points are required and horizontal conductors joining up all the metal work outside, also sev. down rods and earth connections. The conductors may be of copper tape or cable and should be run in a direct line to earth, and sharp bends and joints avoided; they should be kept 2 in. away from the walls by holdfasts. They must be connected either to a water main or to copper earth plates buried in damp soil, or the patent tubular earth (self-watering) is recommended by the L. Research Committee (see Report 1905). See also ELECTRICITY, ATMOSPHERIC. See Sir O. Lodge, *Modern Lightning Conductors*, 1902; W. J. Humphreys, *Physics of the Air*, 1929; papers, G. C. Simpson in the *Proceedings of the Royal Society*, 1926-27; B. F. J. Schonland, *Atmospheric Electricity*, 1932; and J. A. Fleming, *Terrestrial Magnetism and Electricity*, 1939.

Lightning-stick, see BULBOURNE.

Light Railways, see RAILWAYS, 'Light' Railways.

Lights, in public worship, were not used ceremonially by Christians during at least the first two centuries of our era. This is certain from the language with reference to them used by such early writers as Tertullian, Lactantius, and St. Gregory of Nazianzus. It is equally certain, however, that the exigencies of Christian worship during the days of persecution must have necessitated the use of L. for utilitarian purposes, and the L. thus introduced were later retained for the value of the symbolism which had become attached to them. During the Middle Ages the ceremonial connected with them became very elaborate, and their presence became associated with the Blessed Sacrament.

Lights, Aerial. Development of civil aviation and the consequent increase in night flying made it necessary before the Second World War to provide signal lights at various points and aerodrome facilities. There are still some light signals in use, but mostly these are dying out in favour of radar; while the old flashing beacons once seen in Surrey have been replaced by radio beacons. The A. L. still in use include obstruction lights, landing lights, and, of course, aerodrome boundary lights. Obstruction lights are those placed on wireless aerials or on any building situated near the approaches or runways to aerodromes. Buildings within 14 m. of any airport still need lighting because of the prescribed angle of approach laid down by formula for the pilot. See also AERODROME.

Lights, Ancient, popular name for the easement (q.v.) of right to light. The right to have free access of the sun's light to one's windows without obstruction by others originates either in a grant (q.v.) or

by prescriptive title of twenty years. The presumption in favour of the right after twenty years' uninterrupted enjoyment is that it has always existed. If, therefore, the person resisting the right proves that forty (say) years ago the access was blocked against the claimant or his predecessor in title, the inchoate right is defeated, and the same result follows if he can show that the claimant's enjoyment of light depended on a written leave or licence given by him, the person resisting, or his predecessor for a limited and now expired period. The owner of A. L. is entitled not only to sufficient light for the purpose of his then business, but to all the light which he has enjoyed prior to the interruption he seeks to restrain. A right to A. L. cannot be acquired in favour of open ground, but only in favour of buildings. If a person enlarges old windows, these enlargements can be obstructed with impunity, though the A. L. are still entitled to protection. The right to A. L. is lost only by intentional abandonment. See also EASEMENTS AND LIGHTS.

Lights, Artificial are produced by bringing some substance to a state of incandescence. In the older methods of artificial illumination this substance is usually some form of carbon. When a candle or oil lamp is burnt small particles of carbon are produced by the decomposition of the organic substances in the burnt material, and these particles, becoming heated to the point of incandescence, cause the flame to be luminous. Oils of vegetable and mineral origin have been used in lamps from time immemorial, but the introduction of mineral oil (kerosene) brought about a greater efficiency, and the fall in price consequent upon the discovery of vast natural stores of petroleum in America brought that illuminant within the reach of all. The efficiency of oil lamps owes a great deal to the burner introduced in 1784 by Argand, and the modifications and improvements which have been made since then. The central feature of the burner is that the wick takes the form of a hollow cylinder so that a current of air passes upwards and feeds the inner surface of the flame with oxygen. The introduction of a chimney enclosing the flame brought about a higher degree of steadiness and tended to increase the supply of air. Coal gas was first used as an illuminant by Wm. Murdoch of Edinburgh in 1779. The early burners were of the batswing type in which a flattened flame was produced by a slit in the end of the burner. Later the fistul flame was produced by causing two jets of gas from two small holes in the burner to impinge upon one another with the result that a flattening of the flame was produced. In undescend burners had been tried as early as 1826, but it was not until after Bunsen had introduced his heating burner that they became successful. The Bunsen flame is non luminous in itself, because the introduction of a certain amount of air into the gas current causes complete oxidation of the carbon with a resulting high temp. Attempts were made

to utilise this temp. in heating a mantle of infusible material to incandescence. In 1861 the Welsbach mantle was produced. In its later forms it consists of oxides of the rare earth metals thorium and cerium in the proportion of 99 to 1. A cylinder of interwoven cotton fibres is soaked in solutions of nitrates of the metals. The nitrates are converted into oxides by applying a Bunsen flame which also destroys the organic matter. In order to enable the mantle to be handled without



One of the early types of mantle lamp. The glass globe is filled with air and the mantle is a cylinder of interwoven cotton fibres soaked in solutions of nitrates of the metals.

break it is dipped in collodion formed by dissolving gun cotton in alcohol and ether. This leaves a film of gun cotton upon the mantle, which is thus rendered fairly secure until the film is burnt off by the consumer. Other improvements in coal gas illumination were provided by the introduction of the inverted burner and of the high pressure system, by which a small motor is used to increase the pressure above that of the gas in the mains.

Electric lighting may be divided into arc systems and incandescent systems. In the former two carbon rods are placed in contact end to end to enable an electric current to be passed, and are then drawn

apart so that a discharge takes place across the gap, which is therefore bridged by a curved stream of vapour at a temp. of about 3000° C. Arc-lamps are of many different types, and numerous mechanisms have been invented to maintain the necessary distance between the carbons, which are burnt away at a rate which varies with the current and the type of lamp. In recent times the efficiency of the arc as an illuminant has been increased considerably by using carbons impregnated with calcium salts. The first commercially successful incandescent lamp was that introduced by J. W. Swan and T. A. Edison. It consists of a filament of carbon enclosed in a small glass globe from which the air has been exhausted. In 1897 H. W. Nernst patented a lamp in which the incandescent substance was magnesia or a mixture of rare earths. The use of an exhausted glass vessel is rendered unnecessary, but the incandescent body requires to be heated by a small coil of platinum before its conductivity is sufficient to take the current. The lamp does not therefore become illumined as soon as the switch is operated, and is therefore less suitable for domestic purposes than for street lighting. In 1901 the tantalum lamp was introduced. The incandescent body is a zigzag wire made of tantalum, a metal melting at about 2600° C. A still higher efficiency has been afforded by the use of drawn tungsten wire. Electrical energy is transformed into light energy and heat energy in a lamp. The former is emitted as visible light, the latter is dissipated chiefly as infra-red or invisible light. In the vacuum lamp only about 6 per cent of the electrical energy is transformed into visible light energy, the remainder being dissipated as stated. A later invention is the gas-filled lamp, i.e. a tungsten filament enclosed in an atmosphere of argon (q.v.) mixed with a small percentage of nitrogen. The filament in this lamp is maintained at a temp. of 2500° C., which represents an increase of 500° C. over the highest possible temp. in the vacuum lamp if vaporisation of the filament is to be avoided. This has resulted in a higher efficiency, because the hotter the filament the higher the percentage of the visible light energy emitted. In point of fact this is about 8 per cent in the gas-filled lamp. Certain modifications in the construction of the lamp were involved. In order to minimise the loss of energy in the form of heat conducted and convected away from the filament by the gas the wire was coiled into a very small spiral. The immediate result was a brilliant but unevenly distributed illumination. Translucent milky-white bulbs overcame this difficulty, but, while they diffused the light, they also absorbed some of it. The latest process, that of internal frosting of the glass, secures uniform distribution with practically no absorption of the light, and this type of lamp seems likely to enjoy a long career.

Further developments in artificial lighting include the use of discharge tubes containing neon (q.v.) and other gases at very low pressures. The gas is rendered in-

candescent by the high voltage discharge of electricity through the tubes. This form of lighting is popular in advertisement signs, and in beacon lighting at aerodromes. Attempts have been made to utilise vapour lamps, particularly that in which a current travels through mercury vapour, but the colour of the light has so far prevented anything like a general use, although it is much used in therapeutics as a source of light abundant in ultra-violet light. Artificial lighting by luminescence has recently come to the fore, and seems likely to have great success. It depends on the fact that certain substances fluoresce very strongly under the influence of an electric discharge; typical of them are zinc sulphide, zinc orthosilicate, and magnesium tungstate. The powdered substances are coated inside a sealed tube and exposed to electrically derived ultra-violet light. Such lamps have an efficiency and life averaging about three times those of the ordinary filament lamp.

In some trades involving accurate matching of colours the uncertainty of daylight during the winter months is a great inconvenience, hence 'artificial daylight' units, based on the use of special filters with electric or gas lamps to imitate the colour of normal daylight, have been evolved, and are much used in the textile and dyeing industries. In other cases, for instance in the lighting of show windows and on the stage, high values of illumination may be adopted for the purpose of advertisement or display. In yet other cases the effect aimed at is of paramount importance, and economy in the use of light becomes an almost negligible consideration, this may be exemplified in places of entertainment, and it applies in great degree to 'architectural lighting,' in which the light is used as a decorative element and as an integral feature of the architectural design. The direction of light for these varied purposes involves considerable differences in the design of shades and reflectors, which may be so made as to spread light evenly in all directions, or to produce a highly concentrated beam. Thus in the different 'directional' devices for street lighting and in 'flood-lighting' units, the angle of dispersion may vary within wide limits, so that the light may be diffused over a relatively near and extensive surface, or focused on a distant point in the manner of a searchlight. In illuminating the objects to be photographed in cinematographic film production, 'sun-arcs' are adequate to produce the effect of sunshine for close shots and close-ups in the open air in the absence of sunlight, or where this happens to be in the wrong direction. In the studio several types of lighting are employed. 'Floods' are large banks of kilowatt incandescent lamps, contained in a large inverted reflector, hung directly over the set for general lighting. 'Spotlights' are small arc-lamps, usually clamped, amongst other lights, on the rail at the top of the walls of the set. Sun-arcs are also used in the studio for the simulation of sunshine. See also

ACETYLENE; ELECTRIC LAMPS; ELECTRIC LIGHTING; LAMPS; LIGHT-LIGHT.

Lightship, stoutly built vessel of steel, fitted with lights and fog-signals, and occasionally with radar and wireless direction-finding apparatus, and moored at sea near reefs or where it is not feasible to erect a lighthouse. They vary in length from 80 to 120 ft., and have displacements up to 500 tons. The first Eng. L. was that placed at the Nore in 1732, and had a lantern hung at the yard-arm. Later lanterns which surrounded the mast and could be lowered during the day were introduced by Robert Stevenson, this type being universally adopted, though the latest practice now is to have a fixed lantern mounted at the top of a short, hollow steel mast. Prior to 1895 the lights were of the catoptric form, but nowadays dioptric apparatus is generally fitted. Owing to the rolling of the vessel some means of maintaining the horizontal direction of the beam is necessary. This is accomplished by means of gimbals and counter-balance weights, or by a device called a constant level table, where the lens table is balanced on a pivot in the lantern and connected by vertical wires to a pivoted counter-balance weight placed at the rolling centre of the vessel, which controls the movement of the upper table. This latter method has the advantage of causing less motion to the lens table than the gimbals-and-pendulum arrangement. The illumination in Ls. is provided by incandescent-acetylene or incandescent-oil burners and, in some cases, electricity.

Lights, Northern (Aurora Borealis, Australis, Polar Light), natural phenomenon which occurs in many forms, often of great beauty. The prin. types are arcs, bands, rays, curtain or draperies, patches, diffused aurora, and, perhaps most beautiful of all, corona. These all vary in shade from smoky black or grey to brilliant yellow, green, violet, or flaming red. The aurora usually begins with an arch. Its apex to the magnetic meridian. It is often better defined on its lower side, and underneath the sky seems darker than the rest of the heavens. Stars are visible through this 'dark segment' as well as through 'the aurora' itself. The bright streamers of light which often extend 20 or 30 degrees upwards are known to the Swedes as the 'merry dancers.' Auroral displays are most frequent and most brilliant in higher latitudes. Recent investigations have located the position of the aurora borealis, which is found to lie within a region from 50 to 300 m. above the surface of the earth. Spectrum analysis has identified the pronounced green line in the auroral spectrum as an oxygen line, but the precise nature of the aurora is not definitely known. This much seems fairly certain, however: magnetic storms (see MAGNETISM) and displays of the aurora borealis synchronise with a period of great sun-spot activity. Hence the aurora is in the same way connected with emanations from the sun—emanations that must be electrical in nature to create the magnetic storms on the earth. These electrons ejected by the sun reach the earth in

about a day or less and the earth's magnetic field produces certain dispositions in their arrangement which are responsible for the aurora.

Ligne, Charles Joseph, Prince de (1735-1814), Austrian soldier and writer, b. at Brussels, descended from a princely family of Hainault. He distinguished himself in the Seven Years war, afterwards rising to the rank of lieutenant field marshal. In the War of the Bavarian Succession he commanded the Austrian artillery at the siege of Belgrade in 1789. At the conquest of Belgium by the Fr. he lost all his estates, but was given the rank of field marshal and an honorary command at court. From this time onwards till his death he devoted himself to literary work. His collected works, of which *Military Fancies and Prejudices* (1780) is the best known, appeared in 34 vols. at Vienna during the last years of his life, selections being pub. in Fr. by Mine de Stael. See lives by J. Thunheim, 1877, and V. Du Bed, 1890.

Lignite (Lat. *lignum*, wood), mineral substance of vegetable origin like coal, but often showing a distinct fibrous or woody structure. It is light, friable, and porous, closely resembling charcoal, but brown in colour, hence 'brown coal.' It occurs in beds like true coal, but is of much later geological age, dating from the Tertiary Miocene period. Deposits of L. are found in many parts of the world, the chief Brit. deposit being at Bovey Tracey, Devon. It is used as fuel, also in the manu. of producer gas and synthetic liquid fuel; wax and resin are obtained from certain types. Jet is a variety of L.

Lignum Vitæ, wood of *Guaiacum officinale*, a tree of the order Zygophyllaceæ. It is a native of Jamaica and has a smooth, variegated bark. The leaves are divided into two pairs of oval leaflets, and the blue flowers grow in clusters. From the stem exudes the fragrant resin known as gum guaiacum, used medicinally in rheumatism, etc. When first cut the wood is soft and easily worked, but on exposure to the air it becomes much harder. It is a heavy wood and is used for rollers, presses, pestles, shovels for ships' blocks, skittle-balls, bowls, etc.

Ligny, vil. in the prov. of Namur, Belgium, 13 m. N.E. of Charleroi, was the scene of Napoleon's victory over Blücher, June 16, 1815, two days before the battle of Waterloo. L. has an important export trade in granite and marble. Pop. 1900.

Ligonjil, see ELIGON, MOUNT.

Ligor (Siamese Sakor), chief prov. and tn. of Lower Siam in the N.E. of the Isthmus of Kra, Malay Peninsula. The tn. is on the N. of Lakhon (Ligor) Right. Tin is mined. Pop. of prov. 3575,000.

Liguori, Alfonso Maria di (Saint Alphonsus) (1696-1787), Rom. Catholic theologian, founder of the Redemptorist order, b. at Marianella, near Naples. In 1726 he became a priest, and in 1732 organised the 'Congregation of the Most Holy Redeemer,' being appointed by Pope Benedict XIV. founder-general for life. He was canonised in 1839, and declared a doctor of the Church in 1871. Moral theology was the

most important dept. of his teaching, and his system of eusnistry is well known. His chief work is his *Theologia Moralis*. See lives by A. M. Faanoja, 1798-1802; A. Caspeclatro, 1893; and A. C. Bortho, 1900.

Liguria, in auct. Italy, dist. between the Ligurian Sea (gulf of Genoa) and R. Po, bounded W. and E. by R. Varus and R. Macra. In early times the ter. extended into Gaul. The Ligures were conquered by the Romans in the second century B.C. In modern times it is a region of N.W. Italy, comprising Genoa and Porto Maurizio provs. The climate is good; oranges and wine are produced. Area 2085 sq. m. Pop. 1,506,000.

Ligurian Alps, most S. part of the Alps. The L. A. lie between the low ground N.W. of Savona and the Maritime Alps. The chief pass in the W. is the Col di Tenda (6145 ft.) and to the E. of it is the Mengioia massif (8629 ft.) which sends out spurs overlooking, from 6000 ft., the Riviera. The E. part lies further back from the Mediterranean and is lower.

Ligurian Republic, name given to the republic of Genoa during its last years (1797-1805), when it was recognised by Bonaparte and made to substitute a democratic for an aristocratic constitution. Till 1803 it was ruled by a Directory, when a doge appointed by Bonaparte became the chief executive. Finally it was annexed to France in 1805.

Li-hsi, king of Korea, came to the throne in 1861. Previous to the war of 1894-95 he had resisted the encroachment of China, but he was of a somewhat weak and vacillating character, and was largely influenced by the Russian agent residing at Seoul. In 1897 he was proclaimed emperor of Korea, but in 1910 the country was formally annexed by Japan.

Li Hung Chang (1823-1901). Chinese statesman, b. at Hefei in Anhui. In 1864 he became governor of the Kiang provs., and on the outbreak of the Taiping rebellion in 1866 again took the field and ultimately succeeded in suppressing the movement, with the aid of Gordon's forces. He subsequently became the viceroy of Tientsin, which position he held till his death. At the time of the war with Japan Li was in a position of great responsibility. He recognised the necessity of reorganising the Chinese forces to meet the threatening encroachments and rising influence of Japan, and under his supervision both army and navy were greatly strengthened. Notwithstanding the Chinese forces were routed, and in 1895 the emperor sued for peace, Li being sent to negotiate. In 1896 he represented the emperor at the coronation of the tsar. He died shortly after the conclusion of the Boxer movement, the peace being mainly brought about through his exertions.

Lilac, name for various species of *Syringa* (family Oleaceae). They are very hardy, deciduous shrubs, bearing large terminal panicles of flowers, which vary in colour from white to blue, violet, and purple, and are in most cases delightfully fragrant. *S. vulgaris*, a native of Persia,

with its many modern varieties, is one of the commonest shrubs, and grows under the most unfavourable conditions, but is more floriferous when regularly pruned and its faded flower heads and also its suckers removed. It is easily forced to produce blooms in mid-winter. *S. persica* is a dwarf l., and very free flowering. The buds, leaves, and bark of *S. vulgaris* contain illicine, an alkaloid with febrifugal qualities, highly valued in S. Europe.

Lilburne, John (1614-57). Eng. political agitator and pamphleteer, b. at Greenwich. He became the leader of the 'Lovellocks' (q.v.), an ultra-democratic party in the Parl. army. He was repeatedly whipped, pilloried, and imprisoned under the Star Chamber, and afterwards under Cromwell. L. had his faults, being quarrelsome and litigious, but he was passionately concerned for liberty, for toleration, and for democracy. He subsequently became a Quaker. See M. A. Gibb, *John Lilburne, 1611-1657* 1918.

Liliaceae, see LILY.

Lilientron, Detlev, Freiherr von (1844-1903), Ger. novelist and poet, b. in Kiel. He served in the campaigns of 1866 and 1870-71, and held gov. posts till 1887, when he began to follow the pursuit of literature. His best work is his poetry *Adfuhantenritzt, Gedichte, Nebel und Sonne*; he also wrote novels, including *Breide Hummelshuffel* (1887); *Der Muen* (1889); and *Kriegsnordlen* (1891); also a very popular humorous epic, *Poggyrd* (1896). His *Sammtliche Werke* appeared in 11 vols. (1904-5). See H. Braum, *Lilientron und der Naturalismus*, 1923; also lives by D. J. Bierbaum, 1892; F. Oppenheimer, 1898; F. Bockel, 1904; H. Mayne, 1920; and J. Elema, 1937.

Lilienthal, Otto (1848-96), Ger. engineer and aeronaut, b. at Auklam, trained as a mechanical engineer, but devoted his attention to the potentialities of flight. He made many successful glides, his original glider being a monoplane, later transformed into a biplane. It was in this latter machine that he met with a fatal accident. L. was the first to demonstrate the advantage of cambered aeroplane wings and his experiments with gliders enabled Wilbur and Orville Wright to construct their machine. See lives by A. and G. Lilienthal, 1930, and G. Halle, 1936.

Lilith (Heb. night monster, night fairy), female demon mentioned in the O.T. (Isa. xxxiv. 14), trans. in Eng. 'screech owl' or 'night-monster.' The name is probably Babylonian in origin, Lulu and Lilitu being Babylonian sprites that plague men, particularly at night (*layil*, night). She was believed especially hostile to children, and amulets were worn for protection against her.

Lilium, see LILY.

Lille (auct. Insula; Flemish Rijsel or Ryssel), fortress and city of France, cap. of Nord dept., on the Deule, 26 m. from Arras. One of the chief manufacturing centres of France, it produces flax and hemp-yarn, linen, and cotton goods, thread, tulle, velvet, ribbons. There are

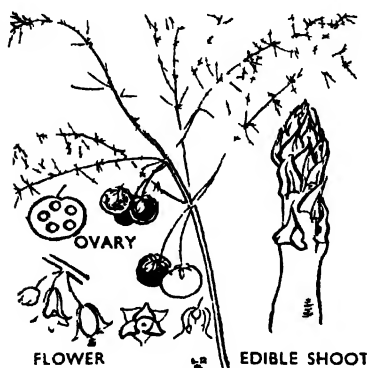
numerous bleaching grounds and beet root plantations nearby, and machine shops, soap dye and chemical works and sugar refineries. Among its chief public buildings are the Univ., Pasteur Institute and the Porte de Paris. The Palais des Beaux Arts (1892) contains one of the best picture collections outside Paris. Wrecked from Spain (1867) L. was defended by Boufflers against Prince Eugene but finally yielded (1708). It was restored to France (1713) and withstood the Austrians (1792). Vaub in built its fortifications (rebuilt nineteenth century) early in the eighteenth century. Taken by the Gers in Aug 1914 and occupied by them until 1918 the Brit Fifth Army entered it on Oct 18. During the occupation most of the industrial plant and machinery

units adopted the tune as a march in the Second World War.

Lilliput, name of a fabulous kingdom described in Swift's *Gulliver's Travels*, 1726. (Gulliver was wrecked on its shores, and the inhabitants (Lilliputians) were so diminutive being merely about the size of a man's finger that Gulliver seemed a giant to them. Hence as an adjective lilliputian means tiny, dwarfish.)

Lillo, George (1693-1739) Eng drama-
tist was the son of a Dutch jeweller. His first play was produced at Drury Lane in 1730. Of his works *George Barnwell* (1731) commended by Pope and *Fatal Curiosity* (1736) produced at the Haymarket by Kildare are the best known.

Lilly William (1602-81) Eng astrologer and fortune teller said to be in Butler's



LILIAEUM (left) and ASPARGUS (right) LILIIUM REGALE



was taken into Germany. During the Second World War the city was again occupied by the Gers, remaining in their hands from May 1940 to Sept 1944 when it was liberated in the course of the advance of the Brit Second Army towards Belgium. The city suffered from air attack but was not extensively damaged. Pop 158,900. See V in Hende, *Histoire de Lille*, 1874.

Lillebonne (incl Juliabona) tn in the dept of Seine Inférieure. Pop c 20 m. 1 of Havre. Cotton is an important export.

Lillehammer, tn in Telemark, Norw. Pop 80 m. N.W. of Oslo. Pop c 400.

Lillers, tn in the Pas de Calais in the arron of Bethune. The tn suffered damage in the Second World War. Pop 8300.

Lillibullero, refrain of an Irish revolutionary ballad words attributed to Lord Wharton and music to Purcell. The word 'Lillibullero' was probably used by the Irish Rom. Catholics during the Protestant massacres of 1641, and the ballad, a scurrilous attack on the Catholics had great political effect helping to bring about the revolution of 1688. Commando

Hudius as 'Siddrophil'. He issued a series of early almanacs. *Mercurius Anglicus* 1647 (1644-81). *Christian Astrology* (1647) the *Introduction to Astrology* (1647) and in 1652 by a London publisher 'with numerous emendations'. *True History of the Kingdom of the Netherlands* (1651) see 1. *but b. pay* (1711).

Lilly John, c 1711.

Lily (*Lilium*) large genus which includes one of the most beautiful bulbous plant members of the family Liliaceae containing also species such as the tulip, bluebell (*Scilla*) lily of the valley, and many other. There are no true Brit species of the genus. The various species grow under widely different conditions in most of the warmer parts of the world but in Brit gardens the best position for the majority of them is a sheltered one with partial shade and a light loamy soil. The European Ls usually do best in ordinary gardens the best of these is the Madonna lily (*L. candidum*) with pure white bell-shaped flowers. *L. maritimum* (Turk's Cap) bears numerous purple or white flowers on tall stems. Other European Ls are *L. croceum* and *L. bulbiferum* both orange. *L. pyrenaicum* with yellow blooms spotted

with brown; *L. pomponium*, producing an umbel of scarlet flowers; and *L. chalcidonicum*, also scarlet. One of the most popular species is *L. auratum*, enormous numbers of bulbs being imported annually from Japan. It does best when grown among peat-loving shrubs. A very early species is *L. hansonii*, spotted yellow. *L. speciosum*, white and red, is a valuable plant for providing cut flowers, but is much grown also in pots and borders. *L. tigrinum* (tiger L.), with its orange red and black blooms, is one of the hardiest, coming up regularly in borders after once being planted. *L. giganteum* is a native of the Himalayas. From a large fleshy bulb a thick stem rises 10 ft. high, and bears numerous trumpet-shaped flowers, white, tinged with purple. The bulb dies after flowering.

Lilybæum, see MARSHAL.

Lilye, or **Lily**, William (c. 1465-1522), Eng. grammarian, b. at Odham, Hampshire. He became headmaster of St. Paul's School and is reputed to be the first to teach Gk. in London. He assisted Colet in compiling the Eton Lat. Grammar, and pub. sev. vols. of Lat. verse.

Lily, **Giant**, or **Spear Lily** *Paranthes exelsa*, family Amoryllidaceæ, not to be confused with *Lilium giganteum*, magnificent Australian flowering plant with ornamental foliage, sometimes grown in large greenhouses. It bears clusters of scarlet blooms on huge stems, 10 to 12 ft. tall, in late summer. Old plants throw off suckers very freely, and the plant is easily propagated.

Lily of the Valley (*Convallaria majalis*), native Brit. plant, much grown in gardens. Its fragrant drooping bells rising from the characteristic leaves are highly decorative. The plant forces exceptionally well, and for this purpose large numbers of crowns are retarded by refrigeration, and from these with gentle heat the flowers can be produced all the year round. A number of fine varieties have been introduced.

Lima: 1. Maritime dept. of Peru, S. America, bounded on the W. by the Pacific. The surface is very mountainous, with fertile valleys in the W. Sugar is produced; nitre, copper, and silver are mined; and there are exports of chinchilla skins and vicuña wool. Area 1,018 sq. m. Pop. 828,300. 2. Cap. of above and of Peru, on the Rhinæ, 6 m. from its port, Callao, on the Pacific. Among its chief buildings are the cathedral (begun 1535, rebuilt after the earthquake of 1716), a public library with rare books, the univ. (1551), and mint (1565). Founded by Pizarro (1535) as Ciudad de los Reyes it became the seat of the Sp. viceroys of Peru, and later cap. of the republic. Its manufs. include gold lace, glass, pottery, textiles, tobacco, furniture, cocaine, aircraft, etc., and silver, copper ore, bark, chinchilla skins, vicuña wool, nitre, soap, and cinchona are exported (mainly from Callao). Pop. 522,900. See J. Valera, *History of Peru*, 1938. 3. Co. seat of Allen co., Ohio, U.S.A., on Ottawa R., 72 m. from Toledo. The centre of the Ohio oil-fields, it produces much petroleum, has oil-refineries, steam-engine and

motor-car works, and manufs. boilers, torpedoes, tile roofing, mattresses, cigars, etc. Grain is grown in the dist. Pop. 16,000.

Liman von Sanders, **Otto Viktor Karl** (1855-1929), Ger. general in Turkish service, b. Feb. 17 at Stolp, Pomerania, son of Karl L., country gentleman. Receiving a commission in the Grand-Ducal Hessian Foot-Guards, 1875, he was major-general by 1908, and in 1911 was appointed to command the 22nd Div. in Kassel. Ennobled in 1913 he added von Sanders to his name. In the same year he was sent to Constantinople, made Ger. general, and marshal and inspector of the Turkish Army, Jan. 1914. Commanding the Turkish Fifth Army at the Dardanelles (q.v.), he compelled the allied forces to retire. Just before the end of the war he was preparing for the defence of Palestine; but the Turkish defence collapsed, and L. narrowly escaped capture at Nazareth, Sept. 18, 1918. At Adana, where his forces reformed, he heard of the armistice, and gave up his command. On his voyage from Constantinople to Hamburg he was detained sev. months by the Brit. at Malta. There he began writing his *Five Years in Turkey* (Eng. trans., 1928).

Limasol, **Limasol**, or **Limisso**, seaport of S. Cyprus, 35 m. S.W. of Larnaka (Larnaca). It has a good road head, exports plaster of Paris, and has much trade in wine, carob trees, and salt. Richard I. here married Berengaria (1191). Pop. 23,000.

Lima Wood, see BRAZIL WOOD.

Limax, see SLUG.

Limb (Lat. *limbus*, border), in astronomy the border or edge of the apparent disk of a heavenly body, especially the sun and moon.

Limbach, tn. in Saxony, Germany, 7 m. N.W. of Chemnitz. It manufs. hosiery, machinery, and gloves. Pop. 19,700.

Limbe: 1. tn. of Haiti, W. Indies, 12 m. S.W. of Cap-Haïtien. It is the centre of a cotton- and coffee-growing dist. Pop. about 15,000. 2. One of the chief settlements of Europeans in the Nyassaland Protectorate in Africa. It is situated in the Shire Highlands (pop. with Blantyre 600 Europeans). It is one of the chief trade ports of the country and there is an electric light and power plant.

Limber, that part of a gun-carriage, consisting of two wheels and shafts, and forming an ammunition container to which horses are harnessed or the traction vehicle attached. See MACHINE GUNS; ARTILLERY.

Limbliss, **Aids for the**, see ARTIFICIAL LIMB.

Limbo, see LIMBUS.

Limborch, **Philip van** (1633-1712), Dutch Arminian theologian, was b. at Amsterdam. He was pastor at Gouda and Amsterdam, and in 1668 was appointed prof. in the Arminian College, Amsterdam. Of his works, the *Institutiones theologiæ christianæ* and the *Historia Inquisitionis* have been trans. into Eng.

Limbourg (Flemish *Limburg*), old prov. of the Netherlands, divided between

Holland and Belgium (1839). The Belgian L. is a N.E. prov., with Dutch Limburg to N. and E., Antwerp, Brabant, and Liège to W. and S. The Maas (Meuse) R. forms part of the E. boundary. The N. half of the prov. forms part of the sandy Kempen (Cambino) plain, agriculturally the poorest ground of Belgium. Industrially, however, this region has a rich future. Extensive coal-fields were located and in 1920 their exploitation began. They are estimated at present to hold a reserve of about 12 milliard tons of coal. Opened to cheap transport by the Albert Canal, this region attracts many industries. To the S. the soil is more productive. Sugar beet and corn are the most important crops. There are also extensive orchards and the breeding of horses, cattle, and swine is carried on. Hasselt (cap.), Genk, St. Truiden, Tongeren, and Lommel are the chief tns. Area 931 sq. m. Pop. 160,000 (367,000 in 1930 and only 271,000 in 1910). See Dr. J. Lyua and others, *De Limburgsche Kempen* (Hasselt), 1936.

Limburg, prov. of S.E. Holland (Netherlands), with Germany to E., N. Brabant (Netherlands), Liège, and Limbourg (Belgium) to N., W., and S. It is drained by the Meuse and the Roer. In the N. is part of an extensive marsh, the Peel. Its cattle are famous, and coal is mined. Maastricht (cap.) and Roermond are the chief manufacturing tns. The prov. was the scene of considerable fighting in Nov. 1914, during the advance of the Brit. Second Army and the U.S. Ninth Army against the Ger. occupying forces. In 1919 a small area of Germany near Maastricht was transferred to Dutch sovereignty. Area 850 sq. m. Pop. 677,600.

Limburg-an-der-Lahn, tn. of Hesse, Germany. 22 m. from Wiesbaden. It has a twelfth-century cathedral with seven towers, a medieval bridge across the riv., and is a bishop's see. The *Limburger Chronik* is in the possession of this tn. Iron is mined in the dist., and manufs. include machinery, railway stock, and cloth. Pop. 12,000.

Limbus, more commonly **Limbo** (Lat. border, edge). In scholastic theology the name applied to the place where departed souls are detained as being unfit to be admitted to the divine vision, and who, nevertheless, have a certain amount of natural goodness and have not offended by any personal act of their own. Dante, in his *Inferno*, describes Limbo as the uppermost of the nine circles subdividing the place of final expiation and doom, the *L. patrum* and the *L. infantum* containing the spirits of the virtuous heathen and unbaptised infants.

Lime is the common name for calcium oxide, CaO . It can be obtained pure by burning calcium in oxygen, but commercially it is prepared by strongly heating limestone or calcium carbonate, CaCO_3 , in a lime-kiln: $\text{CaCO}_3 = \text{CaO} + \text{CO}_2$. Carbon dioxide escapes, and quicklime, *L. alba*, burnt *L.*, or caustic *L.* remains. When wetted a rise in temp. occurs, and the resulting mass is known as hydrated, slaked, or slack *L.*, Ca(OH)_2 , chemically

named calcium hydroxide. In the form of quicklime (i.e. CaO) *L.* is most commonly used by farmers and gardeners. The action of *L.* upon soils containing a large amount of organic matter is a disorganising one, making plant food available to the crop and burning up decomposing organisms. For this reason *L.* must only be applied to soils which contain plenty of organic material, such as animal manures or decayed vegetation. On poor light land *L.* accentuates the poverty. In addition to this action, freshly slaked *L.* is of great value as a fungicide. In soils where turnip culture has been impossible owing to club root, applications of *L.* for two or three successive seasons have made it possible to grow a good crop. (Ground limestone, powdered limestone rock, or chalk is frequently applied to land, and though the action is slower the ultimate effect is the same. Dressings of marl are applied to land, chiefly for the *L.* contained in it. Much fertile land still depends for its *L.* on the heavy dressings applied many years ago. Slaked *L.*, as mixed by builders with sand for mortar and plaster, sets by reason of its loss of water and absorption of carbon dioxide from the air, and consequent hardening. *L.* is an important substance in chemical industry, ranking (either as *L.* or limestone) in importance with coal, salt, air, and water.

Lime, fruit of sweet *L.* (*Citrus limetta*) and the W. Indian *L.* (*C. medica indica*). It is greenish-yellow in colour, about 1½ in. in diameter, and almost globular, but with a nipple at the top, and has a smooth, shiny rind. The juice is very acid, and is much used as a summer drink.

Lime, or Linden, handsome and useful deciduous tree. *Tilia cordata*, the small-leaved *L.*, while hardy and quick growing, is cleaner and handsomer than *T. vulgaris*, the common street tree throughout Europe and in the Berlin promenade. Later den Linden *T. platyphyllo* has large hairy leaves, which often fall in Aug. *L.* flowers are very attractive to bees.

Limeira, tn. in the state of São Paulo, Brazil. It is a centre for orange cultivation, and has a modern packing house. There is also silk worm culture and mulberries are grown. Pop. 20,000.

Lime light, illuminating effect produced by heating lime to an extremely high temp. The principle of *L.* is based on the fact that calcium oxide, like the alkaline earths generally and the rare earths, withstands the disintegrating effects of heat to a high degree. They are very difficult to fuse, and are bad conductors of heat, so that when intense heat is applied to the surface of one of these substances the temp. of the area rises immediately to the point at which the radiant energy is emitted in the form of brilliantly white light. This principle has been adopted in the manuf. of gas mantles, which are suspended in an atmosphere of non-luminous flame. In 1825 Thomas Drummond (1797-1840) introduced a light for signalling purposes in which a flame of high temp. impinged upon a small area in a block of lime. As manufactured nowadays the

'limes' consist of small cylinders with a hole running along the axis, so that a cylinder may be set upon a spindle and caused to revolve at intervals, thus presenting a new area to the flame every few minutes. The flame used requires to be at a high temp., and to this end oxygen is combined with hydrogen or coal-gas, the more complete and rapid oxidation of the hydrogen or organic gases producing an enormous liberation of heat. The oxygen and other gas are generally provided separately, the oxygen being contained in metal cylinders under increased pressure, and the coal-gas being supplied from the mains, though if this is subjected to high pressure treatment, the illumination is still more intense. The jets are so arranged that the current of oxygen blows through the flame at the nozzle of the hydrogen or coal-gas tube and drives it on to the cylinder. Cylinders of mixed gases are employed with excellent results as regards temp., but there is an element of danger consequent upon the explosive nature of the mixture. L. has been used in the theatre, in signalling apparatus, and in optical or 'magic' lanterns, but for some years the greater convenience of electric lighting has now rendered it obsolete.

Limerick: 1. W. co. of Clare, in the prov. of Munster, bounded N. by the estuary of the Shannon. The surface is mostly level, but in the S. and S.E. it is hilly, and the Galtee Mts. reach a height of 3015 ft. The prin. riv. is the Shannon, navigable up to L. tn. and famous for its salmon fisheries, Castleconnell being one of the centres. Above L. are the rapids of Doonas and Castleroy. The fertile Golden Vale lies mainly in this co., and the pasturage is excellent, the rearing of cattle, sheep, goats, pigs, and poultry being extensive; oats and potatoes are grown. Woollen goods and paper are manufactured, and there are flour and meal mills. Area 1062 sq. m. Pop. 112,500. 2. Co. and parl. bor. and city of above co. It lies on the banks of the Shannon and includes King's Is. It is divided into three parts, Eng. Tn. on the Is., which is the old city, Irish Tn., and Newtown Pery, the modern quarter. On King's Is. is a fine Norman building, King John's Castle, used as barracks. The cathedral of St. Mary on the Is. dates from 1142. As a port it is the most important on the W. coast, having a graving dock and about 3000 ft. of quay, and considerable trade. The beautiful L. lace is made at the Convent of the Good Shepherd. Pop. 42,600.

Limerick, 'metrical frivolity' of five lines of verse of which the first, second, and fifth rhyme with an intermediate distich. The following example celebrates the tn. of its origin with, however, a change of accent:

All hail to the town of Limerick,
Which provides a cognomen, generic,
For a species of verse
Which for better or worse,
Is supported by layman and cleric
(Langford Reed).

The L. originated as a popular song, made up impromptu and sung at Irish feasts of

a hundred years ago, each L. dealing with an inhab. of some Irish tn. The first printed Ls. appear in Chap Books, dated 1820. The nursery rhyme, *Hickory, Dickory, Dock*, is possibly the oldest L. Lear's *Book of Nonsense* (1816) started a vogue for Ls. to which Rossetti, Swinburne, and Ruskin subscribed. In 1907 a popular L. craze was started by a series of competitions in the *London Opinion* which at length excited the hostility of the National Anti-Gambling League. See Langford Reed, *Complete Limerick Book*, 1921.

Limestone, rock consisting principally of calcium carbonate (CaCO_3). Many varieties contain a good percentage of impurities, which affect the colour of the rock. Pure L. is white; the presence of iron oxides gives a yellowish appearance, iron sulphide causes a bluish colour, and white silicates in crystalline Ls. give rise to many different colours. Silica is often present in stratified Ls. in the form of chert or flints. Magnesian L. contains carbonate of magnesium. Ls. vary in physical properties according to their constitution, but fairly pure L. has a hardness of 3 and a specific gravity of from 2.6 to 2.8. It is not soluble in pure water, but is readily acted upon by dilute acids, and dissolves in water containing carbon dioxide in solution, which converts it into the soluble calcium bicarbonate. Water in coming through the air as rain, and in percolating through the soil, dissolves quantities of carbon dioxide which is present as the product of combustion or oxidation. In L. regions the water of springs, streams, etc., wears away the rock in a typical manner. Rounded boulders in the beds of streams, deep channels with occasional pot-holes, underground water-courses, caves, and waterfalls are all characteristic of L. dists. Large quantities of dissolved L. are carried out to sea, where it becomes the material from which many marine animals construct their shells or skeletons. When the animals die their skeletons remains fall to the bottom of the ocean, and, in course of time and with alteration of level, form layers of chalk and L. Chalk is the best-known organic L., and is made from the shells of certain species of foraminifera. Carboniferous or mt. Ls. contain in addition the remains of coral animals. Goolite Ls. consist of small rounded grains and contain many fossils. Besides organic Ls. there are many varieties of crystalline Ls. formed by the effects of neighbouring plutonic intrusions. These lose their organic structure and are commonly known as marbles. L. may also be deposited from solution without the agency of any animal; in this way stalactites and stalagmites are formed. Ls. are used for the manuf. of lime and cement, as a flux for iron ores, and for building purposes. Crystalline Ls. are used for making statuary and erections of an ornamental nature.

Lime Water, solution of calcium hydroxide. Calcium oxide, or quicklime (CaO), reacts with water with the evolution of considerable heat. The lumps of

lime crumble to powder, and the product is called slaked lime (calcium hydroxide, Ca(OH)_2). If sufficient water be added to bring it to a creamy consistency, the product is called milk of lime; when water is added in sufficient amount to produce a clear solution, L. W. is formed. L. W. has an alkaline reaction and has useful medicinal properties. In the chemical laboratory it is used as a convenient test for carbon dioxide, which turns it milky owing to the precipitation of finely divided calcium carbonate.

Limit, in mathematics, is a finite quantity which the sum of an infinite convergent series approaches but never reaches, e.g. the series $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \dots$ has 2 as its L. The term is also used for each of the values between which the definite integration of a variable is made.

Limitation of Estates means the marking out by the grantor of land (*q.v.*), to another or others of the quantum of estate (*q.v.*), or interest which each is to take in the land conveyed. It is advisable always to use recognised technical expressions in limiting an estate, because unless appropriate words of limitation are employed the intentions of the grantor may be defeated. (See under ESTATE as to the words for a grant in fee simple and fee tail; and also under ESTATE AND DOVE.) A grant by deed to X without more confers a life estate only, but by the Wills Act, 1837, a devise of real estate without any words of limitation, will, in the absence of an apparent intention to the contrary, pass the whole fee simple or other the whole disposable estate or interest of the testator. As to perpetuities or remoteness of limitation, see PERPETUITY AND LAND LAWS. See also CONTINGENT REMAINDER; REVERSION; SETTLEMENTS; SHELLEY'S CASE, *ILL. L.*

Limitations, Statutes of. It is the policy of the law to impose a time limit on the right to bring actions, not only that there may be some end to litigation, but because, if not, the resulting harm to vested interests that may have grown up in the meantime on the strength of a certain state of circumstances would probably be altogether disproportionate to the detriment of the individual who has lost his right of action by lapse of time. The various periods of limitation in the different classes of actions are all the creation of statute law, the common law (*q.v.*) permitting an action to be maintained at any distance of time from the accrual of the cause of action. The earliest of the S. of L. is that of 1623, which barred all personal actions, i.e. to recover debts on simple contracts (see CONTRACTS; DEBT) and torts (civil wrongs) after six years (slander excepted). The Mercantile Law Amendment Act, 1876, extended the Act of 1623 to actions on merchants' accounts. It is to be noted that the S. of L. do not, for the most part, expressly destroy the right, they only bar the remedy for its infringement; and though the effect may, generally speaking, be the same, the right may often be available as a set off, e.g. if A sues B on a debt for £50, B can set off a stale debt from A to B; and again a

person having an equitable (see EQUITY) charge upon personal property to secure a debt can enforce his security after the debt itself is barred. But the Real Property Limitation Act, 1874, expressly extinguished title to land where the owner being out of possession does not sue to recover his land within twelve years. The statutes run from the earliest time at which an action could be brought, e.g. if A sells B goods on credit, A's right to sue for the price arises only on the expiration of the credit, and the period commences from such expiration; similarly if one of the parties to a contract dies before the cause of action arises, the period runs only from the moment there is a personal representative capable of suing. Once time begins to run it does so continuously, notwithstanding the happening of something to prevent a person from bringing an action. But a debt may be revived so as to cause the period to begin to run afresh; for, as said above, the debt itself is not extinguished, and a *new promise* to pay will be inferred from (1) part payment, or (2) a written acknowledgment of indebtedness. But such part payment or acknowledgment must be of such a nature as not to be inconsistent with an *implied promise to pay the whole debt*, e.g. if the debtor writes 'I admit I owe the money but the goods you sold me were so bad that I should not think of paying for them,' is not sufficient; and again if A owes B £50, and after three years pays £10 on the supposition that this is all he owes, such part payment will not stop the period from running. An acknowledgment or part payment by one of two joint contractors or debtors will bind the other. If an acknowledgment or part payment is made by letter written 'without prejudice,' the continuity of the period will not be broken. These and other fundamental principles of the Statutes of Limitations are for the most part repeated in the consolidated Limitation Act, 1939. Actions in tort, simple contract, recognizance, and for an account are barred in six years from the accrual of the right of action. Actions on a specialty contract (i.e. on a deed) or on a judgment are barred in twelve years; actions to recover a penalty or forfeiture, in two years. A crown action to recover land is barred after thirty years (but an action to recover foreshore is not lost until sixty years); actions for recovery of land by eleemosynary or spiritual corporations are barred in thirty years; but actions for the recovery of land by any other persons are barred in twelve years. If the plaintiff has been in possession of the land and been dispossessed or otherwise has discontinued his possession, the time begins to run from the date of dispossession or discontinuance. No right of action to recover land accrues or continues unless there is 'adverse possession,' i.e. unless the land is in the possession of some person in whose favour the period of limitation can run. No right of action can be preserved by merely formal entry. An action to enforce a right to present an eccles. benefice (see ADVOWSON) as

patron cannot be brought after a period during which three clerks in succession have held the benefice adversely to the right of the claimant or sixty years, whichever period last expires. Actions to recover money secured on mortgage or the proceeds of the sale of land and foreclosure actions are barred in twelve years. No period of limitation prescribed by the Act of 1939 applies to an action by a beneficiary under a trust, being an action in respect of a fraudulent breach of trust to which the trustee was a party, or being an action to recover trust property from the trustee; otherwise action by a beneficiary is barred after six years. Actions against public authorities are barred after one year, except where the act, neglect, or default of the authority is a continuing one, when the right of action will only accrue after the act, etc., has ceased. The Act applies to arbitrations in the same way as to actions in the high court. Persons under disability of infancy, insanity, etc., have six years' grace in which to sue after the disability has ceased. A disability arising after the period has begun will not stop the period; nor will ignorance of one's right of action, unless such ignorance was induced by fraud. As to the application of the S. of L. to suits in equity, see *under* **LACUS**. The Committee on Limitation of Actions, which was appointed in Jan. 1948, under the chairmanship of Lord Justice Tucker, in its report presented to the lord chancellor (July 1949), recommends that the Public Authorities Protection Act, 1893, as amended in its application to England and Wales by the Limitation Act, 1939, and in its application to Scotland by the Crown Proceedings Act, 1947, should be wholly repealed. The report also recommends that the period of limitation for actions in respect of personal injuries should be two years from the accrual of the cause of action, but the court should have a discretion to grant leave to bring an action after the expiration of that period, but not later than six years from the accrual of the cause of action. In actions founded on contract or tort (other than personal injuries) it is recommended that the period should remain at six years. The periods in respect of actions against the Crown and the public corporations set up by the nationalisation and similar Acts should be the same as the periods applicable to other public authorities and to private individuals. Where actions are brought under the Fatal Accidents Act, 1846, the period should be two years from the death of the deceased. The dependents should have the same right to apply for an extension of the period of limitation applicable to the deceased's cause of action as he would himself have had.

Limited Liability, see **COMPANY AND COMPANY LAW**.

Limma (Lat. *leimma* from *leipin*, to leave), interval in the musical system of the anct. Gks., which does not appear in modern music by reason of its smallness. The Gks. determined the L. by subtracting two whole tones, each in the proportion of 8 : 9, from the perfect

fourth (3 : 4), thus obtaining the ratio 243 : 256.

Limni, see **LEMNOS**.

Limnos, see **LEMNOS**.

Limoges, city and military station, cap. of Haute-Vienne, France, 38 m. W. of Clermont-Ferrand, and overlooking the r. b. of the Vienne. It has extensive manufs. of porcelain and enamel, woollen fabrics, paper, candles, leather, etc. It has remains of a Rom. fountain and amphitheatre, and an old cathedral commenced in 1273. During the Second World War the tn. was liberated from Ger. hands in Aug. 1914 by the Free Fr. forces led by Gen. Koernig. Pop. 107,800.

Limón: 1. Prov. of Costa Rica. Pop. 40,100. 2. Chief seaport of Costa Rica, on the Caribbean coast, 102 m. by rail E. of San José. There are steamship lines to New York, New Orleans, and Europe. There is a fine harbour, with two wharves. Most of the country's exports of coffee, bananas, dyewoods, and rubber pass through the port. It has a wireless station. Pop. 10,200.

Limonite, **Brown Iron Ore**, **Brown Hematite**, or **Bog Iron Ore**, ferric hydrate with the formula 2FeO₃.3H₂O. It does not occur crystalline, but is found in fibrous, earthy, or concretionary masses. Its colour ranges from yellow to dark brown, and its streak is distinctly yellowish. It has a sp. gr. of 3½ to 4, and a hardness of 5½. It is often formed from other oxides or pyrites by the influence of the weather, and is the reason found on the outcrop of other iron ores. Its occurrence in bog or meadow land has given rise to the name 'bog iron ore.' Yellow ochre is clay mixed with L. Abundant deposits of L. have been found in the oolites and other sedimentary rocks.

Limousin, or **Limosin**, **Leonard** (c. 1505-c. 1577), Fr. enamel painter and engraver, b. at Limoges, one of the celebrated family of seven Limoges enamel painters, famed for this special branch of art for many centuries. He was painter to Francis I. and Henry II., and for both monarchs executed many portraits in enamel. Some of his best work is to be seen at the Louvre, notably 'Le Chasseur,' and many portraits, including those of Marguerite de Valois and the Duc de Guise. Fine examples of his work are also to be seen at the Wallace Collection and Victoria and Albert Museum, London. See E. Molinier, *L'Émailleur*, 1891.

Limousin, anct. prov. of Central France, now forming the dept. of Corrèze, Haute-Vienne, and Creuse, and parts of Charente and Dordogne. In 1152 it came into the possession of the Eng., Henry II., acquiring it with Eleanor of Aquitaine as part of her dowry; but in 1369 it was restored to France. (Cap. Limoges.)

Limousins (*the* **Henri L.**), group of cardinals, natives of the prov. of Limoges, who dominated the papal court at Avignon from Clement VI. to Gregory XI. (1312-78).

Limpets, gastropod molluscs with oval tent-shaped shells firmly attached to rocks or stones. The adhesion is made with a circular mass of muscle which when raised

in the centre forms a sucker. The shell is lined with a fringed mantle which bears a circle of folds that take the place of the gills of other molluscs. Within the L.'s mouth lies a long radula or spiny tongue armed with about 2000 glassy hooks. This is used to collect vegetable food. *Patella vulgata*, the common limpet, is widely distributed on Brit. and other rocky coasts. Some tropical species attain great size.

Limpopo, Innampura, or Crocodile River, riv. of S. Africa, rising in the Magaliesberg to the W. of Pretoria in the Transvaal. It flows in a semicircular course, forming the boundary on the W. of the Transvaal. Vessels of 200 tons are able to navigate it for 60 m., but its mouth is obstructed by sandbars. Its prin. trib. is the Olifants. It has a total length of about 1000 m.

Linaero, or Lynaker, Thomas (c. 1460-1524), Eng. physician, humanist, and divine, b. at Canterbury. He visited Europe and on his return he was made court physician to Henry VII., and subsequently to Henry VIII. and Mary. In 1503 he took orders and became rector of Merham and prebend of Wells. His chief works are his Lat. trans. from Galen, amongst them being *De temperamentis* and *Methodus medendi*. He was among the first to teach Gk. at Oxford, where Erasmus and Sir Thomas More were among his pupils. See lives by J. Johnson, 1835, and Sir W. Osler, 1908.

Linares: 1. Tn. of Spain, 23 m. N.E. of Jaen. It has rich mines, worked from ant. times, of argentiferous lead and copper, employing nearly 20,000 people, yielding some 670,000 oz. of silver and 126,000 tons of lead ore annually. It has manufs. of sheet-lead, pipes, rope, and explosives. Pop. 47,800. 2. Tn. of Mexico, prov. Nuevo Leon, 65 m. S.E. of Monterrey. It gives its name to a bishop's see. Pop. 6000. 3. Inland prov. of Chile with an area of 3790 sq. m. It is barren and arid in the centre, but fertile in the N. sev. volcanic peaks are in the neighbourhood, and the headwaters of the R. Maipo intersect it. Pop. 135,000. 4. Cap. of above, 166 m. S.S.W. of Santiago. Pop. 10,000.

Linas, or Lynas Point, cape off the N. of Anglesey, N. Wales, 2 m. E. of Amlwch. It has a lighthouse 128 ft. high, and is a signalling station for Liverpool vessels.

Lincoln, Abraham (1809-65), sixteenth President of the U.S.A., and one of the greatest figures in the roll of American national heroes, was b. near Hodgenville, in what is now Larue co., Kentucky. The log cabin in which this event occurred long stood there unprotected, but is now safeguarded in a stone structure. His father, Thomas L., was both ignorant and shiftless, but his mother, Nancy Hanks, was a woman of superior character. The family descent on his father's side has been traced back to a certain Samuel L., of Norwich, England, who emigrated to the colony of Massachusetts in 1638. L. was left motherless at an early age. With his father he moved to S. Indiana, where the elder L. married a widow with sev. children. For ten miserable years

this increased family dwelt in a log cabin in the forest. Abraham had to make clearings, chop logs, and plough with a crude implement. He grew up tall and strong and gaunt, but with little education. The family moved on to Springfield in 1821. By turns he earned his living by splitting rails, keeping a country store, acting as postmaster and surveyor, and working on the riv. as a boatman. On one of his trips he went as far as New Orleans, where he saw something of slavery. This made a lasting impression. In his small circle he became popular. But he was twenty-five,



L.N.A.

ABRAHAM LINCOLN

and nothing had succeeded with him until his neighbours elected him to a term in the Illinois Legislature. Then he read law and was admitted to the Bar at the age of twenty-eight. In 1846 he was elected to Congress, but served only one term.

He returned to Springfield, and from 1843 to 1861 practised law with W. H. Herndon. He had wedded Mary Todd, but this was not a happy marriage. It was the question of extension of slavery in the ter. of the U.S.A. which stirred L. into action. In 1854 Stephen A. Douglas, senator from Illinois, had aroused the N. by his Kansas-Nebraska bill, which repealed the Missouri compromise (see MISSOURI COMPROMISE). Douglas found himself universally denounced in the N. and soon afterwards (1858), when he was again a Democratic candidate for U.S. senator from

Illinois the Illinois Republicans regard less of the support which Republicans in the N. were giving to Douglas for his subsequent resistance to the pro-slavery advocates in Kansas put L. forward as their candidate. The nation at large was surprised for they had never heard of this Springfield lawyer. When the Republicans nominated him at Springfield L. addressed the delegates and used words which were to be quoted over and over again. A house divided against itself cannot stand. I believe that this gov. cannot endure permanently half slave half free. It will become all one thing or the other. L. then challenged his opponent to a series of joint debates, a daring challenge in view of Douglas's reputation as the greatest orator and debater in the U.S.A. Douglas promptly accepted. L. more than held his own. He pinned the debates down to one question—that of slavery in the territories. In the end L. had a majority of the popular vote, but the Legislature chose Douglas. L. was shut out of the Senate where his field would have been limited. But he had an opportunity for bigger things for now he put his energies to the use of a candidate for the presidency in 1860 and his name began to be canvassed. The Democrats had split over the slavery question. It was felt that the Republican would surely name the next president. Wm. H. Seward seemed the outstanding candidate. He had been governor of New York and he was the acknowledged leader of his party. But though in the S. slave states it was freely said that if L. was elected they would secede from the union, L. was chosen receiving 180 electoral votes—152 being sufficient to elect.

The threat of the S. to secede proved to be no idle one. Even before L. was inducted into the presidency seven S. states led by S. Carolina had proclaimed their formal secession and formed the S. Confederacy and chosen Jefferson Davis as president. Very soon the Confederates had seized most of the government navy yards and post offices. During that fatal winter Congress made futile attempts to bring about a peaceful settlement. When L. was inaugurated on March 4 1861 his address was a conciliatory one. He declared he had no intention to interfere with slavery where it already existed. But he said the union was indissoluble and that no state had a right to secede from it. He would execute the laws in all the states and declared the union must and would maintain and defend itself. In April what everybody feared came to pass. The Confederates fired upon and captured Fort Sumter guarding the port of Charleston. The time for union action had come and L. was quick to take it. Two days later he issued a call for 75,000 volunteers, and from every village and boy came to enlist. The S. responded. The remaining S. states seceded. L.'s call for volunteers was answered by Davis, who called for 100,000 men. The great civil war, which had been threatening for forty years, was now a reality. L.'s test had

begun. There followed the anxious years in which things seemed to be going against the union. But on Jan. 1, 1863, L. showed how far he had advanced by proclaiming emancipation of the slaves in all the States then in rebellion. By his fiat he freed 1,000,000 human beings. What baffled L. at this time was to find a general who could win victories. Eventually he found the victor in U.S. Grant. In March 1864 L. made him commander in chief of all the union armies. When some averred that Grant was a drinking man L. retorted that he wished Grant would give some of the same brand of whisky to his other generals so that they too might win victories like Grant.

The war stubbornly went on. The N. was filled with gloom. In the midst of this came a presidential election. The leaders of the Republican party who never understood and never liked L. were against him. They backed one of his own Cabinet S. P. Chase for the nomination but Chase withdrew when his own state declared for L. The Democrats nominated Gen. McClellan who for so long headed the union armies. The war however was taking a new turn in favour of the S. Admiral Grant won a great victory at Mobile Bay. Sherman captured Atlanta and began his famous march to the sea. Sheridan was sweeping everything before him in the Shenandoah valley thus ensuring the safety of the cap. The people acclaimed L. who received 212 electoral votes to 21 for his opponent. On Feb. 3 1865 S. soldiers entered Fort Sumter in an attempt to bring about peace. But L. would listen to no overtures save on the basis of a restored union and the total abolition of slavery. He also made it clear that he would not treat with the Confederates as equals. On April 9 1865 the greatest of the S. generals Robert E. Lee surrendered to Grant at Appomattox. The war was virtually over. On the night of April 14, 1865 L. attended a theatre. John Wilkes Booth an actor crept to the box where the president sat and shot him through the brain. On the morning of the 15th he died.

A whole nation mourned his passing. He was unique in their nation's story. With little real school education he had shown all the qualities of statesmanship and revealed himself one of his country's greatest orators. His humility his patience his long silence under misunderstanding and attack his steadfast grasp of things when the fate of the nation seemed darkest his courage when other strong men wanted to yield or compromise, the matchless beauty and eloquence of his Gettysburg address and the simple charity and kindness of his second inaugural address—all these things a mourning people now remembered. Secure in the hearts of his own countrymen the whole world has adopted him as one of its greatest men. It is no insignificant thing that in England, where men radically differed upon the question of recognizing the Confederacy as a belligerent nation, to-day in most prominent places

in London and Manchester there stand monuments to the great Amer. He, whose lowly ancestors came from Eng. soil, is to-day honoured on that same soil.

Bibliography.—L.'s complete works were ed. by J. G. Nicolay and J. Hay (12 vols., 1905). Nicolay and Hay also produced a monumental *History of Lincoln* (10 vols., 1890). Among the large number of biographies on L. mention may be made of those by W. H. Herndon and J. W. Weik, 1889 (new ed. by P. M. Angle, 1930); C. Schurz, 1891; Ida M. Tarbell, 1900; Lord Charnwood, 1916; N. W. Stephenson, 1924; W. E. Barton, 1925; and A. J. Beveridge, 1928. See also H. B. Rankin, *Intimate Character Sketches of Abraham Lincoln*, 1924; C. Sandburg, *Abraham Lincoln, the Prairie Years*, 1926; E. Ludwig, *Lincoln*, 1930; J. G. Randall, *Lincoln the Liberal Statesman*, 1947, and *Lincoln the President*, 1947; and K. C. Wheare, *Abraham Lincoln and the United States*, 1948.

Lincoln: 1. Parl., municipal and co. bor. and city of England, cap. of Lincolnshire, on the Witham, 139 m. from London. L. was the ant. Brit. Lindun (*lin*, pool; *dun*, hill fort), and according to Claudius Ptolemy the chief tn. of the Coritani (cf. LEICESTER) and the nucleus of the Rom. military station of Lindum. It was at first (A.D. 47) the headquarters of the Ninth Legion, and after the Rom. advance to Eboracum (York) (A.D. 70), became a civil settlement 'behind the line' with the title of a 'colonia' or 'coln.' L. (as *Lindocolina* or *Linnolle*) is mentioned in the *Itinerary* of Antoninus of the early fourth century. Numismatic evidence indicates that the Rom. occupation continued until about A.D. 100. An interesting feature of L. is Newport Arch, which was the N. gate to the Rom. city and which is supposed to be the only Rom. archway in the Brit. Isles which still spans a main road used by modern traffic. After the sack of the tn. by the Angles its hist. is silent until the seventh century when, according to Bede, Paulinus built a stone church at L. in which he consecrated Honorius, archbishop of Canterbury. When the Dan. armies settled on the land one of them, the 'army of Lincoln,' occupied Lindsey and made L. its headquarters. It seems that although theretofore L. never attained any great size, it was, at the Conquest, one of the three or four chief tns. of the kingdom, with a considerable trade with Norway and Denmark. The Conqueror theretofore decided to build a castle there and it was chosen as the seat of a bishopric and the place for a cathedral. The institutions of the city were, however, left inviolate, including the lawmen, who continued to hold their position till it died out. At the Conquest L. was divided into private *socs* or jurisdictions, of which only one, the manor of Hungate, or Beaumont Fee, survived into modern times. Other communities, civil and eccles., were reformed; such were the Jews, whose settlement is still represented by the Jews' House. Later came the religious houses: Monks Abbey, a cell of the Benedictine abbey of St. Mary of

York and St. Catherine's priory of the order of St. Gilbert of Sempringham; and the friars, whose only remaining building is the beautiful Grey Friars, which later housed the grammar school (founded in 1090) and to-day is the museum. The many mediaeval par. churches are now represented only by St. Benedict, St. Mary-le-Wigford, and St. Peter-at-Gowt's. Of the buildings of the many religious and trade guilds of the Middle Ages there still stands St. Mary's Guildhall, a valuable example of twelfth-century architecture. Civil rule in L. dawned with the first appearance, in 1206, of the mayoralty, whose aldermanry would appear to have been the headship of the merchant guild. Owing to disorders, sev. times the city's charters were withdrawn. In 1300, after a ten-year's forfeiture of privileges, Edward I. granted L. a new charter and after this there gradually developed a select body of 'common councilmen,' who (from the sixteenth century onwards) met in the present guildhall over the Stonebow gatehouse. Many years elapsed before this gatehouse was completed, and the S. face, with figures depicting the Annunciation, was not built before about 1520; the royal arms above the arch probably commemorated the visit of James I. in 1617. The prosperity of medieval L. was based upon the wool trade. The raw wool was brought to L. mainly along the waterways (Fossdyke connecting the Witham and the Trent, and the Carylke connecting the Nene and the Witham), and there made up for export to Flanders and the Hanseatic tns. Cloth was being made in L. by 1157, at which date there was a guild of weavers. The wool staple, however, was removed to Boston in 1369 and with the departure of some of the great merchants L. began to decline. The Civil war helped on the process and laid a number of churches in ruins; besides which the Roundheads did much mischief in the cathedral, while the Cavaliers burnt down the bishop's palace. Things began to improve in the eighteenth century, the first evidence of civic recovery being the erection of St. Peter-at-Arches, the corporation church adjoining the Butter Market. In 1741 Richard Ellison acquired a lease of the Fossdyke tolls from the corporation, and his improvement of the navigation brought a steady increase of trade. The first railway to reach L. was opened in 1846 and soon there followed the development of industrial enterprises in the manuf. of agric. machinery and, later, heavy engineering products—oil engines, excavators, winding engines, tractors, and motor-car components.

The historic features of L. are the castle, the cathedral (see separate article, LINCOLN CATHEDRAL), the Stonebow, and the guildhall. The castle was built by William the Conqueror in 1068 to supplement the defences of the city, whose Rom. walls and gates had for the most part survived. The upper tn. was annexed to the new castle as a kind of outer bailey—hence the name 'Baillgate' of modern times. The castle had two gateways, an E. one

opening upon Castle Hill, inside the city, and the W. one leading to open country, the E. gate being still in use, though the round Norman arch has been covered by a fourteenth-century pointed arch with flanking turrets. L. castle departs from the usual Norman plan in having two mounds instead of one. Both stand on the S. side of the castle yard, their bases being only about 200 ft. apart. The Stonebow (mentioned above) stands on the site of the S. gate of the lower Rom. enclosure. The medieval gate which stood on the same site was pulled down in the fourteenth century. Like its successor the present gate, the medieval gate had the guildhall situated above it. The hall itself is partly panelled and has a magnificent open timber roof with carved bosses. This hall and the inner hall beyond it contain a number of portraits of monarchs and local personages. On the roof is the mote bell (1371), still rung to summon council meetings. The civic insignia include a fine specimen of a fourteenth-century sword, believed to have been presented to the city by Richard II. in 1387; a fifteenth-century sword believed to have been given by Henry VI., and two maces, one of the Commonwealth period and one of the time of Charles II. The most interesting buildings on Steep Hill are the Jews' Houses. In the Strait is the one known as the Jews' House. The front has been mutilated but it preserves its beautifully moulded doorway with interlacing pattern. Next door to it is the Jews' Court, which has lately been rescued from destruction under slum clearance legislation and restored to the Lincolnshire Architectural and Archaeological Society. These houses and that popularly known as Aaron's House belong to the twelfth century, when L. was at the height of its prosperity as a centre of the wool trade. Aaron was a great figure in Eng. Jewry, having financial transactions through agents in many parts of England. He d. in 1186, and by the usual rule his property passed to the king.

The Usher Art Gallery contains important permanent collections. One special feature is the Usher Collection, which was left to the city by James Ward Usher, together with a bequest from which the gallery was built in 1927. The other special collection is of works by Peter de Wint (1781-1819), the water-colourist. The City and Co. Museum in the Grey Friars contains many important Rom. remains recovered from casual excavations in the city. These discoveries, however, throw little light upon the growth of Rom. L. and, to obtain further evidence, systematic excavation is carried on by a research committee formed in 1945. The High bridge, which spans the Witham, dates, as to its central portion, from the twelfth century. On the W. side of the bridge are fine examples of half-timbered houses, built about 1540, and on the E. side there once stood the wayside chapel of St. Thomas of Canterbury, built in the thirteenth century and demolished in 1763. The Grey Friars is approached from the Stonebow by way of Saltergate, but all

that now remains is the chapel built about 1230. Adjoining the museum is the Central Public Library, built in 1913 with the aid of a Carnegie grant and designed by Sir Reginald Blomfield. The three most interesting medieval par. churches, St. Benedict, St. Mary-le-Wigford, and St. Peter-at-Gowt's, are all S. of the riv. In front of St. Benedict is the city war memorial. St. Mary-le-Wigford is notable for its noble tower of Saxon type. St. Peter-at-Gowt's also has a Saxon tower, with features similar to those of St. Mary-le-Wigford. Pop. 66,100. See J. W. F. Hill, *Medieval Lincoln*, 1948.

2. Tn. in Providence co., Rhode Is., U.S.A. It has cotton manufs. Pop. 10,500. 3. Co. seat of Lancaster co., Nebraska, U.S.A., and cap. of the state, 54 m. S.W. of Omaha. In 1871 the univ. of Nebraska was opened, now accommodating over 10,000 students. It is the centre of a rich agric. area. Its manufs. include chemicals, bricks, tiles, and railway wagons. Pop. 81,900. 4. City of Logan co., Illinois, U.S.A., 29 m. N.E. by N. of Springfield. The chief industry is coal-mining; grain is shipped, and mattresses, footwear, machinery, and furniture are manufactured. L. is the seat of the Cumberland Univ. Pop. 12,700.

Lincoln Cathedral. Apart from its imposing position 200 ft. above the lower city, the cathedral church of L. has a special interest for the student of Eng. eccles. architecture in that it exhibits the growth of that architecture from its early Norman stages to the most fully developed forms of Eng. Gothic. The earliest seat of the bishops of Lindsey is traditionally identified with Stow, 10 m. from Lincoln. On the Dan. invasion the see was removed first to Leicester and then to Dorchester (near Oxford). On the death of the last Saxon bishop in 1067, King William appointed Remigius, abbot of the abbey of Fecamp, to succeed him and c. 1073 Remigius removed the see from Dorchester to Lincoln and here he built a church on the highest part of the city. The central portion of the W. front and the lower stages of the Norman towers are surviving portions of his church, a grim and massive building, half fortress, half church. After a disastrous fire in 1141 this church was restored to more than its former beauty by the third Norman bishop, Alexander the Magnificent. The three richly decorated Norman doorways, the arching above the lateral recesses, the upper stages of the Norman towers, and the gables on the N. and S. faces of the W. towers belong to this period. In 1185 an earthquake shattered the church and a new work of restoration was begun by Hugh of Avalon and carried on by his successors. The choir of St. Hugh and two bays of the E. wall of the great transept were completed before 1200, and during the next fifty years the nave, the screen surrounding the Norman front, the chapter-house, and the lower stages of the central tower were added to the building. The canonisation of St. Hugh in 1220 led eventually to the erection of the Angel Choir, which replaced the apsidal

end of St Hugh's church and into this choir in 1280 the body of the saint was translated and deposited in a costly shrine. The choir belongs to the closing years of the thirteenth century and the completion of the central tower to the period of Bishop John of Dailcroy (1300-20). The latest stage was reached about 1380 by the erection above the W towers of the great bellfries which have been described as 'among the noblest towers in Christendom'. Among the various works of restoration in later times the most extensive was begun in 1922 and completed in 1932 at a cost of £140,000, the stability of the building having been



LINCOLN CATHEDRAL FROM THE NORTH-WEST

prejudiced by various disasters of fire, earthquake and tempest. A further work of restoration became necessary owing to the discovery, in 1931, of the dangerous condition of the Angel Choir and the tracery of the E window.

The Exterior—The W front though lacking in unity of design, has an impressive grandeur. The severe Norman work of Remigius is relieved by the richer work of the period of Alexander, notably the much-restored mouldings and capitals of the doorways. The erection of the screen in the thirteenth century led to the raising of the central arch and the insertion of the beautiful cinquefoil window. The window below like those in the other arches, has been replaced by a Perpendicular window (fourteenth century), though it retains its original arch and Early Eng. shafts. The lattice-work around the arch and windows is a feature of the period of Bishop Grosseteste (1235-53) (*q.v.*). The statues of kings above the central door were inserted late in the fourteenth

century. The central tower, the loftiest of Eng. cathedral towers is 271 ft. high. The perfect proportions of this tower and its combination of majesty and grace, of richness and simplicity, constitute it one of the grandest towers in the world. In it hangs 'Great Tom', a bell weighing 5½ tons. The S. end of the great transept contains a beautiful rose window (of the Decorated period). Beyond the great transept extend the choir of St Hugh and the E transept the possession of two transcripts being a feature which E. shares with Canterbury and Salisbury. Begun in 1255 and completed early in the fourteenth century, the Angel Choir with its five bays is one of the crowning achievements of Eng. Gothic architecture. The richly carved marble capitals, the fine arch mouldings, the delicate tracery of the triforium, and the foliated corbels all claim attention. The choir takes its name from the thirty figures of angels in the spandrels of the arches of the triforium. Above the easternmost pier on the N. side is the tiny celebrated figure of the Lincoln Imp. On the N. side of the sanctuary are six canopied niches the three easternmost containing the Easter Sepulchre with homagium on duty depicted in the panels below. The other three niches cover a tomb which bears an inscription by Bishop Luller (1667-70) indicating that the body of Remigius rests here. Some years ago a leaden coffin containing riches, with a paten and chalice and a fragment of pastoral staff, was discovered within the tomb and justifies his attribution. A conspicuous feature on its S. side is the splendid portal of Judgment porch with its recessed arch mouldings and sculptures. Of the two Perpendicular chapels which flank the porch the easternmost was built by Bishop Russell (*d.* 1441) the other by Bishop England (*d.* 1447). The E end with its lofty central gable is of stately proportions and contains the magnificent window of geometrical tracery. The chapter house (1220-35) connected with the E transept by a vestibule and cloister is the chief chapter house in the Early Eng. style.

Interior—The nave of seven bays in the Early Eng. style was completed during 1200-35. The clustered columns of the piers of freestone and Purbeck marble, the richly carved capitals and beautiful triforium combined with the spaciousness of the building give an effect of one of lightness and elegance. The vaulting of the nave with its carved bosses and of the two lateral chapels opening at the W end into the nave are interesting examples of Early Eng. vaulting. Near the crossing on the N. side of the nave a richly carved slab of marble has been assumed to be the original tomb of Remigius, whose body was later translated to the sanctuary in the Angel Choir, but it is probably of a later date. The great rose windows in the N. and S. ends of the great transept are known as the Dean's Eye and the Bishop's Eye. The former is an early and splendid example of 'plate tracery' and contains some very fine thirteenth-

century glass. The S. end of the transept was reconstructed in the fourteenth century when, as a result of the offerings made at the tomb of Bishop John of Daldery, locally revered as a saint, the present magnificent window, with its leaf-like tracery, was inserted under an arch of pierced quatrefoils. The shrine of this bishop was on the W. side of this transept and was excelled in splendour only by that of St. Hugh.

Entering the choir by the S. aisle we see the beautiful double arcading, which is a feature of the work of St. Hugh's time. The S. aisle contains the mutilated shrine of little St. Hugh, the Christian boy whose death in 1255 was laid to the charge of the Jews of Lincoln. The story is recalled by Chaucer in the *Prioresse's Tale*, and is the subject of anct. ballads. The E. transept has two apsidal chapels on the E. side, both of St. Hugh's time, and a relic of the Romanesque planning of churches. In this transept are buried sev. bishops of Lincoln, the most celebrated being Robert Grosseteste, whose tomb was a place of pilgrimage. The wrought iron screens at the N. and S. entrances from the L. transept into St. Hugh's choir are beautiful examples of thirteenth-century work. The interest of this choir is that it is one of the very earliest examples of the Early Eng. style. The clustered columns, the rounded abacuses, the character of the foliage, and the deep mouldings of the arches are characteristic features, and unlike contemporary Fr. work. The cloister, which is entered by a covered passage from the N. transept, was built by Bishop Sutton about 1296. The N. side of the cloister, demolished at an earlier period, has been replaced by the colonnade, with the library above it designed by Sir Christopher Wren. From this colonnade a fine view may be obtained of the cathedral towers and the E. and W. transepts. Among the treasures of the cathedral is one of the four original copies of Magna Carta.

Lincoln College, one of the colleges of Oxford Univ., founded in 1227 by Richard Fleming, bishop of Lincoln, and reorganised by Thomas Rotherham, arch-bishop of York, and lord high chancellor in 1479, who thus earned for himself the title of second founder. John Wesley, Lord Crew, John Morley, and James Cotter Morrison were distinguished members of the college.

Lincoln Judgment, The, celebrated Eng. eccles. suit which came up in 1889, the bishop of Lincoln, Edward King, being cited before the archbishop of Canterbury (Dr. Benson) to answer charges of various ritual offences committed at the administration of Holy Communion in the church of St. Peter-at-Gowt's and in Lincoln Cathedral in December of 1887. Proceedings were commenced in June 1888 by a petition presented by the promoters (two of whom were inhab. of the diocese of Lincoln, and two parishioners of St. Peter-at-Gowt's) to the archbishop. The matter was referred to a committee and the case then referred to Dr. Benson, who heard it in Lambeth Palace on Feb. 12,

1889. The offences alleged against the bishop of Lincoln were, for the most part, breaches of various rubrics in the Communion service of the Prayer Book, viz. the mixing of water with the wine, the non-visibility of the performance of the manual acts, the making of the sign of the cross at the benediction, etc. It was argued that a bishop is not a 'minister' and thus not bound by the rubrics. Judgment was given by the archbishop in Nov. 1890, but he confined himself to the legal declarations, and pronounced no monition on the bishop of Lincoln in respect of the breaches of eccles. law committed by him. The promoters appealed to the Judicial Committee and their appeal was heard in 1891, judgment being given in Aug. 1892, and the appeal failing on all points. The case has a permanent importance, first, because certain disputed questions of ritual were legally decided, and, secondly, because the jurisdiction of the archbishop of Canterbury to try one of his suffragan bishops for alleged eccles. offences, alone, was declared to be well founded and legal.

Lincoln Mount, peak 14,297 ft. high in the Park Range of the Rocky Mts., Colorado, U.S.A. There are silver-mining works at the summit, to which a railway has been constructed, and there are two meteorological stations, one conducted by Harvard Univ.

Lincoln Sheep, see SHEEP.

Lincolnshire, Charles Robert Wynn-Carrington, first Marquess of, and first Earl Carrington (1813-1928), joint-hereditary lord great chamberlain of England, eldest son of second Baron Carrington, was educated at Eton and Cambridge. He was M.P. for High Wycombe, 1865-68, captain of the Royal Bodyguard, 1881-1885, governor of New S. Wales, 1885-90. Created an earl, 1895, and from 1892 to 1895 he was lord chamberlain of the household, chairman of the National Liberal Club, and an energetic member of the L.C.C. President of the Board of Agriculture from the beginning of Campbell-Bannerman's administration, 1905; he resigned that post in 1911, and was lord privy seal till Feb. 1912, when he retired with a marquessate.

Lincolnshire, E. co. of England, bounded E. by the North Sea and the Wash. It is the second largest co. in England, and possesses, including the shore of the Humber, nearly 110 m. of coast, mostly marshy, but with some stretches of sand. The co. generally is flat, a considerable part being fens and marshes, but there are two ranges of hills, the Lincoln Edge, or Heights, or the Cliff, on the W. running from Grantham to Lincoln and on again to the Humber, and the Wolds running from Spill-by to Barton-on-Humber. The prin. rvs. are the Humber, Trent, Witham, and Welland. The Isle of Axholme, the vale of Ancholme, and a good deal of the co. to the S.E. of Lincoln is occupied by the fens (q.v.). The soil as a whole is rich, and it is one of the first agric. cos. in England. It has the largest bulb-growing industry in the United Kingdom. A quantity of grain is grown, the largest

crop being barley, and cattle and sheep are reared in large numbers, also a fine breed of horses. Limestone, freestone, and ironstone are quarried, but the manufs. are not very considerable, there are machine and implement factories, and also brickfields. It is divided into three 'parts' (Lindsey, Kesteven and Holland), and eight parls. divs. each returning one member. Area 2640 sq. m. Pop. 647,600. See Victoria County History *Lincolnshire*. T. Allen, *The History of the County of Lincoln* (2 vols.), 1831, G. S. Streetfield, *Lincolnshire and the Danes* 1884. L. M.

and Gujerat during the first Sikh war. During the Indian mutiny it participated in the siege and capture of Lucknow. During Kitchener's Egyptian campaign (1897-98) it was present at the battles of Atbara and Khartoum. It fought at Paderburg in the S. African war, 1899-1902. During the First World War it raised nineteen battalions which served in France, Flanders, Gallipoli and Egypt. During the Second World War the L. R. fought on the W. front, in the battle of Normandy, and in the advance to the Rhine. They also fought as part of the



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BULLOCK FIELDS AT SPALDING, LINCOLNSHIRE.

Sympton, *Memorials of Old Lincolnshire*, 1910; W. H. Wheeler, *History of the Town of S. Lincolnshire*, 1920; C. Marlowe, *The Fen Country*, 1925; *Lincolnshire Domesday and the Lindsey Survey*, trans. and ed. by C. W. Foster and T. Longley (Lincoln Record Society), 1925; and C. Brears, *Lincolnshire in the 17th and 18th Centuries*, 1940.

Lincolnshire Handicap, The, see HORSE-RACING RACE MEETINGS.

Lincolnshire Regiment, formerly the 10th Foot, was raised in 1685 by the earl of Bath. It took part in Marlborough's campaigns during the War of the Sp. Succession, and gained honours at Blenheim, Ramillies, Oudenarde, and Malplaquet. In 1801 it fought in Egypt, where it gained the 'Sphinx' badge. During the Peninsular campaign it served on the E. coast of Spain. In 1842 it went to India, and fought at Sobraon, Mooltan,

Elghth Army in the invasion of Italy and yet other units were part of the Chindits in Burma. The 4th Lincolns were part of the 116th Brigade of the 49th Div., which fought in Normandy in 1944. Previous to fighting in France this div. was in Norway. In France the Lincolns (together with the Durham Light Infantry and the Duke of Wellington's Regiment) particularly distinguished themselves in the bocage country in the battle for Juvigny and Raucourt. Also, later, the Lincolns crossed the Escourt Canal and forced a bridgehead over the Turnhout-Antwerp Canal (Sept. 25, 1941), taking 145 prisoners. They were also in the attack on Tilburg.

Lincoln's Inn, see INNS OF COURT.

Lind, Johanna Maria, better known as Jenny Lind, and afterwards as Madame Jenny Lind-Goldschmidt (1820-87), Swedish singer, b. at Stockholm. At the

Royal Theatre in Stockholm she made her debut in 1838 as Agathe in *Der Freischütz*. She was at once successful, but after two years' work decided to continue her studies for a while under Manuel Garcia. She sang in the prin. cities on the Continent, but it was not until 1847 that 'the Swedish nightingale,' as she was called, appeared before a London audience. She aroused tremendous enthusiasm and became a popular heroine. In 1852 she married Otto Goldschmidt of Hamburg. She had before this (in 1849) retired from the operatic stage, but she continued to sing at concerts until 1883. In 1859 she had become a naturalised Brit. subject. See lives by H. S. Scott-Holland and W. S. Rockstro, 1891; N. W. Stephenson, 1922; and her daughter, Mrs. R. Maudo, 1926.

Lindau, Paul (1839-1919). (Ger. critic, dramatist, and novelist, b. at Magdeburg. In 1863 he became editor of the *Dusseldorfer Zeitung*. He then went to Berlin, and in 1866 to Elberfeld, where he ed. the *Elberfelder Zeitung*. In 1869 he founded *Das neue Blatt* at Leipzig, and, three years later, *Die Gegenwart* at Berlin. He also founded *Vord und Sud* in 1878, which he ed. till 1904. L.'s works include biographies, essays, criticisms, stories, sketches, and dramatic adaptations. Among his better known plays are *Maria und Magdalena* (1872); *Tante Therese* (1876); *Die Erste* (1895); and *Der Abend* (1896). He also adapted some plays of Dumas and Sardou for the Ger. stage. His other works include *Litterarische Rücksichtlosigkeiten* (1872); *Dramaturgische Blätter* (1875, essays on Moliere and Alfred de Musset; also *Herr und Frau Baer* (1882) and *Spitzke* (1888) (novels). See E. Hüdlich, *Paul Lindau als dramatischer Dichter*, 1876; life by V. Klemperev, 1909; and his own *Autobiographie*, 1917.

Lindau, unct. tn. of Württemberg-Baden, Germany, formerly in Bavaria, 25 m. E.S.E. of Constance, on a small is. in the lake. The chief building of interest is the medieval tn. hall, which has been restored. A railway bridge connects it with the mainland, and a new road bridge was opened in 1927. It was the scene of fighting in the Second World War in May 1945 when it was captured by the U. S. Army. Pop. 6000.

Lindbergh, Charles A. (b. 1902). Amer. airman, b. at Little Falls, Minnesota, his father being a Congressman from that state. He entered the engineering class of the univ. of Wisconsin, and in 1922 entered the flying school at Lincoln, Nebraska. In 1925 he became an officer in the Missouri National Guard, and began to earn his living as a pilot in the gov. air mail service between St. Louis and Chicago. Learning that Raymond B. Orteig had offered a prize of \$25,000 for the person who first made a non-stop air flight between New York and Paris, he appealed to some St. Louis business men who agreed to finance him. They had built for him the 220 h.p. Ryan monoplane, which was named *The Spirit of St. Louis*. He left in this plane from San Diego, California, to New York, via St. Louis, and arrived at his destination on

May 12, having made a record overland continental flight. His time of departure was 7.52 on the morning of May 20, 1927, and he landed at Le Bourget field, Paris, on the night of May 21, or 33 hrs. after starting. He was promoted to the rank of colonel in the Amer. Army and received the Woodrow Wilson medal as well as the prize money. Soon afterwards he met and married Anne Morrow, daughter of the Amer. ambas. to Mexico. In 1933 L. and his wife flew the S. Atlantic from the Gambia to Port Natal (Brazil), a distance of 1900 m., in 16 hrs., thereby completing a survey flight of both the N. Atlantic air route from America to Europe and of the S. Atlantic route. On March 1, 1932, the infant son of L. was kidnapped from his home in New Jersey and held for ransom. In May the skeleton of the child's body was found near the L. house. In 1933 a Ger. named Hauptmann was tried, convicted, and executed for the murder. L.'s popularity, however, suffered severely from his isolationism in the period preceding America's entry into the Second World War, and his public utterances on President Roosevelt's policy suggested that he was not only against Amer. intervention but was bitterly hostile to Britain. See his autobiography, *Wings* (Pilot and Plane) (1927).

Linden: 1. Suburb of Hanover, Germany, has iron foundries, textile mills, and rubber and chemical works, and manufs. textiles, ultramarine, and artificial manures. Pop. 30,000. 2. Vil. of Westphalia, Germany, 7 m. E.S.E. of Essen. It has machine shops and iron foundries, and coal is mined. Pop. 15,000.

Linden-tree, see LIME.

Lindgren, Waldemar (1860-1939). Amer. geologist and mineralogist, b. at Kalmar in Sweden. He was prof. at the Massachusetts Institute of Technology from 1912 to 1933 and had a considerable influence on the newer developments in the study of mining geology. He pub. *Mineral Deposits* (4th ed., 1933) and *Ore Deposits of the Western States* (1935, with bibliography).

Lindi, dist. and prov. (S. Prov.) headquarters and port of Tanganyika, 60 m. N. of the Portuguese E. African boundary. The port and tn. are situated on L. Bay on the estuary of the Lukuledi R. and there is a good harbour. L. is important as the main distributing centre of the S. Prov., dealing in or exporting grain, ground-nuts, rice, cashew nuts, cotton, tobacco, beeswax, copra, mangrove bark, and colombo root. There are Anglican and Rom. Catholic churches and a wireless station for aircraft. L. has golf links, tennis, excellent bathing and fishing. Rainfall averages 35 in. Pop. (dist.) 122 Europeans, 675 Asiatics, and 133,000 natives. The tn. has about 5000 natives.

Lindisfarne Gospels, or *St. Cuthbert's Evangelistarium*, most celebrated production of the Anglo-Illiberian monastery of L., founded by St. Aidan and the Irish monks of Iona or Icolmkill, in 634. St. Cuthbert (q.v.) d. in 687 and as a monument to his memory his successor, Eadfrith, caused to be written in Lat. this

beautiful vol., which is known also as the Durham Book of St. Cuthbert's Gospels. It formerly belonged to the dean and chapter of Durham, but is now in the Brit. Museum. The MS., surpassed in grandeur only by the Book of Kells (*q.v.*) in the same style, was greatly enriched by Ethelwald (Ethelwold), bishop of L., who succeeded Eadfrith in 721 and caused St. Cuthbert's book to be richly illuminated by the hermit Hrith, who prefixed an elaborate painting of an evangelist to each of the four Gospels and also illuminated the capital letters at the commencement of each book. Bishop Ethelwald had the whole encased in a binding of gold set with precious stones; and in 950 a priest named Aldred (Ealdred) rendered the book still more valuable by interlining it with a Saxon version of the original MS., which is the Lat. text of St. Jerome. The peculiar importance of this vol. in the hist. of illumination (*q.v.*) consists in its clearly establishing, by its coincidence with earlier examples, the class of calligraphy practised by that primitive church and people to whom Gregory the Great sent St. Augustine at the end of the sixth century. The L. G. were ed., with a learned introduction, by Bouterweck in 1857 and by Stevenson and Waring for the Surtees Society in 1851-63.

Lindley, John (1799-1865). Eng. botanist, b. at Cotton, near Norwich. In 1819 he pub. *Observations on the Structure of Fruits* (a trans. from the Fr.), followed the next year by an original work, *Monographia Rosarum*. In 1829 he became prof. of botany at Univ. College, London, and lecturer to the Apothecaries' Company. Amongst his prin. pubs. are *A Synopsis of the British Flora* (1829); *Flora Medica* (1838); *The Vegetable Kingdom* (1846); and *Theory and Practice of Horticulture* (1855). In conjunction with Sir W. J. Hutton he also wrote *The Fossil Flora of Great Britain* (1841).

Lindley, Nathaniel Lindley, Baron (1826-1921). Eng. jurist, b. at Acton Green, Middlesex. He was called to the Bar in 1850, beginning practice in the court of chancery. In 1872 he became queen's counsellor and in 1875 a justice of common pleas. In 1881 he was raised to the court of appeal and made a privy councillor. He succeeded Lord Esher as master of the rolls in 1897, and three years later was made a life-peer, and thence until 1905 he was a lord of appeal in ordinary. His pubs. are *An Introduction to the Study of Jurisprudence* (1855) and *Treatise on the Law of Partnership, including its Application to Joint Stock and other Companies* (1893).

Lindley, William (1808-1900). Eng. civil engineer, b. in London. In 1838, after travelling in various parts of Europe engaged in railway work, he was appointed chief engineer to the Hamburg-Bergedorf railway. He began by constructing a complete sewerage system, and between 1844 and 1848 he designed the Hamburg water-works. He also designed the rebuilding of Hamburg after the fire of 1842, erected the gas-works, and executed the trigonometrical survey of the city (1848-60).

Lindo, Mark Prager (1819-79), Dutch prose writer, of Eng. parentage, b. in London. He went to Holland at the age of nineteen and set up as a private teacher of Eng. In 1853 was appointed teacher of Eng. language and literature at the Royal Military Academy in Breda, a post he continued to fill till 1865. He wrote sketches for the *Arnhemse Courant*, afterwards pub. in book form under the pen-name of De Oude Herr Smits ('Old Mr. Smits'). In 1856 he founded the *Nederlandsche Spectator*, in which much of his best work appeared. L.'s chief serious original Dutch writing was *De Opkomst en Ontwikkeling van het Engelsche Volk* (The Rise and Development of the British People) (2 vols., 1868-74).

Lindsay, Alexander Dunlop Lindsay, first Baron Lindsay of Birker (b. 1879). Brit. philosopher, educated at Glasgow Univ. and at Univ. College, Oxford. Former Shaw fellow, Edinburgh Univ.; he was lecturer in philosophy, Victoria Univ.; fellow of Balliol and classical tutor, 1906; Jowett lecturer in philosophy there, 1911; prof. of moral philosophy, Glasgow Univ., 1922-24; vice-chancellor, Oxford Univ., 1935-38. Master of Balliol College from 1924 to 1948, when he retired to take up the position of head of the new Univ. College of N. Staffordshire. His works include *The Philosophy of Bergson* (1911); *Karl Marx's 'Capital'* (1925); *The Nature of Religious Truth* (1927); *Christianity and Economics* (1933); *Kant* (1934); *The Church and Democracy* (1934); *The Moral Teaching of Jesus* (1937); *The Two Moralities* (1940); *The Modern Democratic State* (1943); and a trans. of Plato's *Republic* (1907).

Lindsay, Lady Anne, see BALNARD, LADY ANNE.

Lindsay, or Lyndsay, Sir David (1490-1553). Scottish poet and Lyon King-of-Arms, b. at Garnglynn, near Haddington. He was attached to the Scottish court in 1508, and later became an usher to James V. of Scotland, holding this position till 1522. From his writings it is evident that although L. took part in the court life his sympathies were with the people, and he was not afraid of rebuking the vices of the young king, with whom notwithstanding he was a favourite. *The Testament and Complaint of our Sovereign Lordis Papping* was written by L. as a satire on the court, prelates and nobles, and the *Answer to the Kingis Flyting* as a rebuke of the king's licentiousness. His earliest poem is *The Dreame* (c. 1528), an allegory in the style of Chaucer, written in the seven-line stanza. L.'s famous morality play, *An Satyre of the Thrie Estatis*, denouncing the clergy, appeared in 1540. His longest poem is *The Monarchie*, giving an account of the rise and fall of Syria, Persia, Greece, and Rome. Others include *The Complaint of Ragsche, the Kingis quid Houde, to Bawtie, the Kingis best belovyd Dog, and his companyonis, Kittis Confessioun* (an attack on the Church), and *An Description of Pedder Coffels* (i.e. pedlars), a study in low life. See life by P. F. Tytler, in *Scottish Worthies*, 1831-38.

Lindsay, David (1856-1922), Australian

explorer, b. at Goolwa, S. Australia, of Scottish parents. He began his career in the Survey Dept. of the Australian Gov. He explored and surveyed many parts of the country, and in 1888 achieved the feat of crossing Australia on horseback from N. to S. His explorations in the MacDonnell Mts. in Central Australia in 1889-1890 led directly to the opening up of the famous goldfield of W. Australia. In later life he was concerned largely in the development of mining.

Lindsay, Nicholas Vachel (1879-1931), Amer. poet, b. at Springfield, Illinois. He studied art in Chicago, and for a time was a lecturer for the Y.M.C.A. and the Anti-Saloon League. Finding in himself a genuine aptitude for smooth, easy-flowing verse, he imitated the ancients, bards and minstrels by tramping the highways and securing from unsophisticated everyday folk on the farms a night's board and lodging, in return for which he recited to them some of his own compositions. He may be said to have injected the spirit of jazz into his rhymes, which appear better when recited than when read. Among his books of verse, are *General William Booth enters into Heaven* (1913); *The Congo and Other Poems* (1914); *The Chinese Nightingale* (1917); *The Golden Book of Springfield* (prose, 1920); *The Golden Whales of California* (1920); and *Collected Poems* (revised ed., 1925). See life by E. L. Masters, 1925.

Lindsay, Norman Alford William (b. 1879), Australian artist, b. at Creswick, Victoria. L. is principally known for his illustrations of Petronius, Rabelais, Villon, and of Aristophanes' *Lysistrata*, trans. by his eldest son Jack who is also a novelist. His etchings were reproduced in a collected ed. in 1927 with a chronology of his work from 1918 to 1915. His work is decorative, and in the style of Aubrey Beardsley, but he has not Beardsley's capacity for continuous line. Other publs.: *Creative Effort* (1921); *Madam Life's Lovers* (1929); and *Age of Consent* (1938). His second son, Philip, has gained recognition as a writer of historical novels.

Lindsay, (n. in Victoria co., Ontario, Canada, 70 m. N.E. of Toronto. He manufs. carriages, leather, agric. implements, etc., and has a tannery and saw mills; also knitting and woollen mills. Pop. 9000.

Lindsays, Earls of Crawford and Balcarres, see CRAWFORD AND BALCARRES, EARLS OF.

Lindsey, Benjamin (1869-1913), Amer. jurist, b. at Jackson, Tennessee. Educated at Notre Dame Univ., Indiana, and the Baptist Univ. of his native tn., he moved to Colorado, and was admitted to the Bar in Denver in 1894. Becoming interested in the fate of juvenile offenders, he secured the passage of the Colorado juvenile court law in 1899 and was named judge of the court in Dec., being re-elected for ten successive terms. He met with opposition, but succeeded in his aim of enforcing the rights of children. In 1934 he became a judge of the Superior Court of California. His work *Problems of*

Children appeared in 1903. Other writings include *The Herold of Modern Youth* (1925); and *The Compassionate Marriage* (1927); both in collaboration with Walnwright Evans. His autobiography, *The Dangerous Life*, was pub. in 1931.

Lindsey, Earl of, see BERTIE, ROBERT.

Lindsey, Parts of, dist. of Lincolnshire, the largest of the three administrative divs. (or 'parts') of the co., occupying the N. half. The S.E. dist. of Lincolnshire is called 'Parts of Holland' and the S.W. 'Parts of Kesteven.'

Line (after the Fr. *ligne*), measure of length, the twelfth part of an inch, now used only technically, e.g. 'The numbers indicate the quantity of "lines" in diameter.'

Linea, or La Linea de la Concepcion, tn. in prov. of Cadiz, Spain, 1½ m. N. of Gibraltar. Pop. 36,000.

Line Engraving, see ENGRAVING and PROCESS WORK.

Linen, Yarns and fabrics spun and woven from the fibres of flax (*Linum usitatissimum*) are all comprehended under this name. The flax plant belongs to the order Linaceae, and grows from 2 to 3 ft. high. It is cultivated widely in Europe, Asia, and America. The manuf. of L. was one of the most widely spread and extensive industries of European countries from quite early times. Egypt, too, was long celebrated for its L., many L. mummy cloths of fine texture and great age having been found there. The cultivation of flax was extensive in Italy shortly before the Christian era, and it was probably introduced into Britain for textile purposes by the Romans. In recent times it has ceased to be a domestic industry, and has become an important textile manuf. in certain dists. The inventions of Arkwright, Hargreaves, and Crompton in the latter half of the eighteenth century were a blow to the L. trade as it then existed. In 1787 the foundation of machine spinning of flax was laid by John Kendrew and Thomas Porthouse of Darlington, who obtained a patent for the first mill for spinning yarn by machinery which was built at Darlington. Their invention ultimately developed into the present-day perfect system of machinery, although the weaving of L. yarn by power loom was of slower growth than that of cotton, the first really successful factory for the former not being erected till 1812. The modern manuf. of L. is divided into two branches, viz. spinning and weaving, apart from bleaching and the numerous finishing processes. After the flax fibre is received in bundles from the mill, where it gets a rough sorting, its manuf. into yarn comprises the operations of (a) heckling; (b) preparing; and (c) spinning. The first-named process consists of disentangling, splitting up and separating into their ultimate filaments the fibre strands. It was originally performed by hand, and is so still in Ireland and in some Continental mills. The 'heckler' takes a handful of flax by the middle and draws the root end sev. times through the heckle-teeth, an oblong stock of wood with strong steel teeth inserted, then reversing the handful and heckling

the opposite end in a similar fashion. The flax is then subjected to the same process on a heckle with finer teeth, the object being to separate the flax into 'line' the best portion, and 'tow,' the short and ravelled end. Nowadays heckling machines are extensively employed in the place of hand-heckles.

(b) *Preparing*—This stage consists of various operations for sorting the flax-line into qualities and then subjecting it to certain treatment on different machines, viz. the spread-boards, drawing-frame, and roving-frame. On the spread-boards

flies across the warp yarns, over and under alternately, to weave the cloth.

Bleaching—In the modern process of bleaching the cloth is rapidly passed over a red hot cylinder to render it quite smooth. It is then boiled in lime water and soda lye, dried over heated tin rollers and rendered glossy by mangling, starching and drying.

Making up—Cloth is woven in lengths of 60 to 80 yds. and, when bleached, requires to be made up which consists of cutting and hemming the lengths into the various articles for household and other



Irish Linen Guild

LINEN DAMASK TAKES SHAPE IN THE LOOM

which are moving belts of leather, the lengths of flax fibre are laid end on end and brought through graduated series of pins and roller which combine the individual lengths into one continuous sliver which is drawn out finer and finer until the roving frame imparts a slight twist to the sliver in preparation for the operations of the actual spinning frames.

(c) *Spinning*—This operation consists of dry and wet spinning, the first being used for the very coarse yarns and the second for the finer. The weaving of the L. yarn into cloth is accomplished in three main operations: (1) 'Drawing in' the warp yarns, which run the length of the cloth, through reeds which space the yarns according to the fineness of the cloth required. (2) Winding the warp yarns on a beam for insertion in the loom. (3) Winding the weft yarns on little pins or cones for fitting in the shuttle which

purposes. The making up branch of the L. trade in N. Ireland employs some 10,000 people.

Belfast is the chief tn. in the United Kingdom engaged in the manuf. of fine L. and in England Leeds and Barnsley are the centres of the trade. The value of L. exported from the United Kingdom during 1934 was £5,180,000 and practically the whole of this came from N. Ireland. The Ulster industry normally provides employment for approximately 70,000 persons (exclusive of those engaged in growing the fibre). On the Continent L. is manufactured in France, Belgium, and Germany. See also *FLAX*. See T. Woodhouse and T. Milne, *The Finishing of Jute and Linen Fabrics*, 2nd ed., 1928; T. Woodhouse and P. Kilgour, *Spinning, Weaving, and Finishing of Flax and Jute*, 1929; and E. A. G. Caldwell, *The Preparation and Spinning of Flax Fibre*, 1931.

Line of Communications. routes by which, in wartime, supplies and ammunition are conveyed from the base of operations to the main body of the army or the zone of operations. The direction in which the army is preparing to move forward is termed the *line of operations*; thus the latter is followed up closely by the L. of C. which grows in length, and in importance from a strategical point of view, as the march of the army is prolonged. In the olden times armies were absolutely dependent for their supplies upon the resources of the country in which they were campaigning. When one part of the country was no longer able to support it, the army moved on, thus leaving in its train, in the majority of cases, a blighted, devastated countryside. The introduction of Ls. of C. brought about a revolution in the art of strategy. Strategical movements and operations have always, from the very beginnings of war, depended ultimately upon the question of supplies. 'An army travels on its belly,' as Frederick the Great is reported to have said, and Napoleon's dictum that 'the secret of war lies in the communications' embodies the same truth. Thus the L. of C. became the all important factor, for an army could be either forced out of a strong position or checked in its advance when its L. of C. was threatened or cut. If an army could land from the sea at a point near to a L. of C., especially if not well defended, it might force the enemy to renounce any projects against distant points, as the occupation of Plevna stopped the advance of the Russians through Bulgaria. In more recent times Ls. of C. have consisted either of the roads of a country, the rivers, the railways, or of the open sea. Railways can supply the needs of an army very quickly, but have several attendant disadvantages. The beds of railways are easily wrecked; the army relying on them is too hampered in its sphere of action, and as the carrying power of every railway is known a surprise attack cannot be successfully carried out when properly opposed, as Moltke showed in 1870. The sea is the L. of C. *par excellence* when it is available, as by its use secrecy and freedom of movement can be obtained and the enemy kept in a continual state of suspense. As has been seen on the efficiency of its L. of C. depends the efficiency of an army, but it is general is able to cut loose from his L. of C. and change it at will, he gains thereby an enormous advantage, as both Grant and Sherman showed in the Amer. civil war, and Lord Roberts in his march on Pretoria in the S. African war. In the First World War the stabilising of the W. and E. fronts, on which opposed armies of vast numbers each occupied many lines of trenches, behind which trench systems whole countries were organised for war, surprise attacks on Ls. of C. were out of the question, though the fundamental principles above outlined remained unchanged. Germany's advance into Belgium and N. France was rendered less precarious by reason of the pre-war construction of strategic railways in those

parts of Germany whence, in the event of war, the invading armies might receive reinforcements and supplies. Again secrecy and freedom of movement on the seas were by no means easy of attainment by reason of the use of sea-planes and wireless communication. A secret and surprise landing by the Allies at Suvla Bay would have cut off the Ls. of C. of the Turkish Armies in Gallipoli, but, as events proved, the venture was impossible. The great developments in modern aerial warfare have to some extent modified the above outlined principles. The Ger. conquest of Crete in the Second World War was accomplished entirely from the air, their L. of C. being, in effect, the aerial routes to the conquered airfields in Greece. Again beleaguered armies and cities were sustained for indefinite periods by air-borne supplies, as in the case of the Ger. Army in Stawaya Russia. The Brit. garrison in their epic resistance in Tobruk, Libya, were kept supplied both from the sea and the air, but the sea communication was always uncertain and hazardous. Operations of the allied forces in Burma became increasingly dependent upon air supply, both in defence and attack.

Line Spectrum, *see* SPECTRUM.

Ling, genus of Eriaceae, *see* CALLUNA VULGARIS.

Ling (*Molva vulgaris*), wide-ranging fish of the *Gadidae*, cod family. It is from 3 to 4 ft. long, and is orange-grey or bluish on the back and sides, and silvery on the belly. The caudal fin is rounded at the extremity as in the turbot. When fresh it is not much valued for food, but cured and dried it is consumed in great quantities in S. Europe. The roes sometimes attain a great weight, and the female is one of the most prolific fish known. The liver yields an oil which has been used as a lubricant, and is sometimes substituted for cod-liver oil as medicine.

Lingah, or **Bander Lingah**, seaport tn. of Persia, in the prov. of Laristan on the Persian Gulf. There is a good harbour, and the anchorage is excellent owing to the depth of the water a comparatively short distance from land. Shipbuilding is carried on and there is trade in cotton, pearls, and rice. Pop. 22,000.

Linga Puja, form of phallic worship practised among the Hindus. The Linga, or emblem of the male generative organ, is the symbol of Siva, under which form that god is worshipped by the Lingayats, an independent Saiva sect. The female counterpart is called the *Poni*, and the two are grouped together as the *Sakti Puja*.

Lingard, John (1771-1851), Eng. historian, studied at the Eng. Rom. Catholic College at Douay, and was from 1795 until 1811 vice-president of Crookhall College, near Durham. In 1806 he pub. *The Antiquities of the Anglo-Saxon Church*, and five years later began his famous *History of England*, the first two vols. of which appeared in 1810 and the last in 1830.

Lingayen, large gulf on the W. coast of Luzon, Philippine Is. The cap. of Pangasinan, a dist. of Luzon, is called L., and is

situated on the S. shore of the gulf, 100 m. N.N.W. of Manila. The climate is good and rice is extensively cultivated. The coast of L. Bay, which has the naval base of Cavite, was the scene of the Jap. invasion of Luzon on Dec. 22, 1941. Three years later, in Jan 1945, the U.S. Sixth Army also made landings here, following a naval bombardment of the coast, and estab. beachheads from which the liberation of Luzon was successfully conducted. Pop. 20,000.

Lingen, tn. on the R. Ems, in Lower Saxony, Germany, 13 m. N.N.W. of Munster. Pop. 1600.

Lingua Franca, language adopted by traders in the Mediterranean, is really a corrupt form of It. This term is now applied to any language which is adopted for commercial purposes, such as pidgin Eng. in China.

Linguaglossa, tn. in the prov. of Catania, Sicily, on the N.E. slope of Mt. Etna, with tannous pine woods. Pop. 14,000.

Linguet, Simon Nicolas Henri (1736-1794), Fr. advocate and writer, b. at Rheims. One of the most celebrated advocates of his time, he quarrelled with other members of the Bar and was dismissed. He then took to journalism, founding the *Journal de politique et de littérature*, but as a result of a clash with the Fr. Academy he had to leave the country, returning some years later as an Austrian councillor of state. He was eventually guillotined in Paris. He wrote *Histoire du siècle d'Alfred le Grand* (1762); *Histoire des révolutions de l'empire romain* (1766-68); *Histoire impartiale des Jésuites* (1788); *Théorie des lois civiles* (an attack on Montesquieu's *Esprit des lois*, 1767); and *Mémoires sur la Bastille* (1789).

Linguistic Families. It is not to be assumed that every language belonging to one of the three main groups of languages, classified according to their structure (see under LANGUAGES, CLASSIFICATION OF), is related to every other of the same group. Until about 150 years ago all languages were referred to as Heb. in origin, and this was taken for granted since Heb. was the language of the Bible. In 1767 the Fr. Jesuit Cœuvres pointed out certain resemblances between Sanskrit and the European languages. Nearly twenty years later Sir Wm. Jones described Sanskrit as being more exquisitely refined than Gk. and Lat., yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident. In 1816 Franz Bopp, later a prof. in the Univ. of Berlin, pub. a comparative grammar of the Sanskrit, Gk., Lat., Persian, and Germanic languages, and thus laid the foundation for the comparative method of linguistics. On the other hand, already in 1822 the great Ger. scholar Wilhelm von Humboldt rightly stated that languages are so different in form that it is impossible to classify them both accurately and comprehensively, or to divide the languages of the world into groups or families in such a way as to account satisfactorily for absolutely

all of them. Indeed the later and more detailed study of linguistic science has proven many conclusions of earlier scholars to be groundless, and their classifications often inaccurate. Still, nowadays the great majority of forms of speech, including all the important languages, can be classified.

The nineteenth century witnessed the formation and development of a new branch of study known as comparative philology (see under PHILOLOGY). Already in the late eighteenth century it was discovered (see above) that certain forms of speech such as Sanskrit, anc. Gk. and Lat., Persian, and Germanic showed various linguistic features which were more likely to have been inherited from a common ancestor of these languages than to have originated independently. Applying the so-called comparative method eminent philologists have attempted to reconstruct the original languages of modern linguistic branches, such as Germanic, Slavonic, Celtic, and so on (these were called proto-Germanic, proto-Slavonic, proto-Celtic, etc.), as well as of larger L. F., or sub-families, such as Indo-European, Semitic, or Finno-Ugric (called proto-Indo-European, proto-Semitic, proto-Finno-Ugric). At the same time it was possible to establish the close relationship between the members belonging to the same linguistic family, the closer relationship between the members of a linguistic sub-family, the still closer relationship between the members of a linguistic branch, sub-branch, or group. It must, however, be pointed out that there are still many open questions, and problems which to-day seem to be solved to-morrow may be considered as again open. For instance, until recently the Semitic and the Hamitic languages were considered as distant L. F.; nowadays most authorities consider all the Semitic and Hamitic languages as belonging to the same linguistic family.

With these and other reservations it may be said that the great majority of the 2500-3000 languages of the world may be classified in the following fifteen to thirty L. F.; the number depends on the way in which the native languages are classified, whether the various groups be considered as L. F. or sub-families or only branches or sub-branches. Each of the L. F. may be divided into various sub-families or branches, most of which may be again subdivided into sub-branches or further languages or groups of languages. It must be emphasised, however, that the classification of languages is not the same thing as classification of races or nationalities. Languages have spread by military and political conquest, or cultural and religious influence, as well as by wholesale migrations, to peoples biologically quite unrelated to the original speakers. The most conspicuous example is the U.S.A., where 150,000,000 people of Eng., Irish, Welsh, Scottish, Ger., It., Polish, Amerindian, African, Jewish, and other descent all speak a language, wholly once a Ger. dialect influenced by Lat., Norman Fr., and other forms of speech, is

to-day the richest language in the world. In various parts of the world, and particularly in N. America (where, for instance, according to Voegelin, only 'over half the aboriginal languages are still spoken'), Eng. has driven out other languages temporarily estab. In Lat. America the aboriginal languages are slowly disappearing before Sp. and Portuguese. In Siberia Russian has replaced many aboriginal languages.

Main Linguistic Families.—Indo-European languages (*q.r.*); Semitic-Hamitic (*q.r.*); and Ural-Altaic (*q.r.*).

The Caucasian Linguistic Family.—The region of the Caucasus Mts. to-day presents a bewildering complexity of diversified tongues spoken by fairly small groups, neighbours to one another, many of which are mutually unintelligible. Of these only one, Georgian or Kartvliana, achieved literary expression at a comparatively early date (fourth or fifth century A.D.), while others have remained practically unknown outside their own ter. On the other hand, various important anc. languages, long extinct (*e.g.* Elamite and Hittite, and perhaps also Lydian and Carian; see under ALPHABET and CUNEIFORM WRITING), have been considered as having Caucasian affinities.

European Remnants of Linguistic Families.—Many more L. F. existed of which very little is known. For many thousands of years languages have been developing, changing, and disappearing throughout Europe as throughout all the other continents, without leaving any trace, because the people who spoke them disappeared and there was no method of recording them for future generations. Other peoples left written documents which as yet cannot be read or cannot be understood. Interesting is the instance of the anc. Cretans or Minoans, who left many thousands of documents written in various scripts, but none of the attempted decipherments has yielded results. Scholars, however, are generally agreed that the language was not Indo-European. Even more interesting from the linguistic point of view is the case of the Etruscans (*q.r.*), who were the leading power in Italy in the first half of the first millennium B.C. Much of their civilisation passed, through the Romans, into the fabric of European civilisation. The simple reading of the numerous Etruscan inscriptions does not present great difficulties, but their language has not yet been deciphered, and its relationship with other L. F. is still uncertain. Another linguistic problem is that of the Basques. Their language is as alien to Indo-European as can be imagined. It has been suggested that the Basques are the remnants of the anc. Iberians who were supposed to have been connected with the anc. Caucasian Iberians. Some scholars consider Basque as the sole surviving fragment of a common speech spoken by Neolithic peoples scattered over Europe long before the conquest or immigration of the Indo-Europeans. Others connect the Basques with the anc. Ligurians, who in Neolithic times ap-

parently inhabited the whole N. part of the W. Mediterranean, and consider the anc. Iberian language as the offshoot of an early Libyan tongue. However, the problem remains unsolved.

The Tibeto-Chinese Linguistic Family has a great number of languages (partly agglutinating and partly isolating; see LANGUAGES, CLASSIFICATION OF) and dialects, and is spoken over a very wide area, from Peking to Baltistan, and from Central Asia to S. Burma. It falls into two sub-families, Siamese-Chinese and Tibeto-Burmese, the former comprising Chinese, Annamite, Karen, Siamese, Thai Lao, Thai Lu, Thai Ya, Thai Yuan, Thai Mao, Lu, Hkun, Ahom, Khamti, Paili, Shukla, and other Shan dialects, the latter comprising the numerous Bhotia languages (including Tibetan) spoken in Tibet, Bhutan, Sikkim, Nepal, Ladakh, and Baltistan; Burmese; Pyu (extinct); the Lo-lo and Mo-so group of languages; the Mon group (Miao or Miao-tzu, with many dialects in S.W. China; Yao or Yao-ming, with various dialects, in the Chinese provs. of Kwantung and Kwangsi, and in upper Burma); Li-su (Yunnan); the extinct Tangut of Si-Hia (powerful kingdom, A.D. 982-1227, between China and Tibet); and other languages and dialects.

Malay-Polynesian is another of the most widespread L. F. in the world, extending from Madagascar (Malagasy) through the Malay Peninsula, the E. Indies, and the Philippines, to Formosa, New Zealand, Hawaii, and Easter Is. Hundreds of languages and dialects belong to this family, many of them having anc. literatures (especially Javanese) and indigenous scripts (Javanese, Batak, Kedjang, Lampung, Macassar, Burmese, Filipino; see under ALPHABET). Some of these languages are extinct (*e.g.*, Cham in Fr. Indo-China). To-day the entire Malay-Polynesian language problem is simplified by the existence of a kind lingua franca, 'basic' Malay, known as 'pidgin' or 'bazaar', which is understood in all except the interior dists. of the larger Is.

Dravidian Languages (S. India).—Bishop Caldwell, who devised the term Dravidian from *Dravida* or *Dravida*, the Sanskrit form of Tamil, distinguished twelve Dravidian languages or dialects, six cultivated and six uncultivated. Many other dialects and sub-dialects exist. However, four are the main languages: Tamil (18,000,000 speakers), which possesses the earliest Dravidian literature; Telugu (about 22,000,000), the Dravidian speech most widely spoken; Malayalam (about 5,000,000), closely akin to Tamil, but more influenced by Sanskrit; and Kanaree (about 8,000,000), more akin to Telugu than to Tamil.

Austro-Asiatic Linguistic Family.—The anc. Khmer language (Khmer is the indigenous name for Cambodia, which is the Europeanised form of the Sanskrit term *Kambuja*) and the Mon language (the Mon or Talings, also known as Peguans, were the earliest civilised people of Burma) constitute the Mon-Khmer

branch of a family of languages which in the remote past occupied a very extensive area. Kindred languages are still spoken in Assam (Khasi), on the Malay Peninsula (Senoi), and over the whole of Central India (Kolarian or Mundu).

Other Linguistic Families of the Pacific.—The numerous languages and dialects of the Australian Aborigines, of the Papuans, of the Tasmanians (extinct in 1876), are remnants of various L. F. having no apparent affiliation to others.

Remnants of the Aboriginal or Palaeo-Siberian Linguistic Family.—The Yukagir, the Chukcha or Tusk, and the Koryak are Mongoloid tribes inhabiting the shores of the Arctic Ocean and Behring Sea in N.E. Siberia. They speak Uralo-Asiatic, Siberian Palaeo-Asiatic 'aboriginal' languages.

Negro-African Languages (q.v.).—Apart from the extremely primitive linguistic family of the Bushmen and the Hottentots, who actually are not Negro peoples, the numerous forms of speech (numbering perhaps 1000) of the Negro peoples of Africa are considered as belonging to the following main L. F.: Bantu, Sudanic or Sudanese (also known as Sudanese-Guinean), and Nilotic.

Native Languages of the American Continents.—These languages and dialects, numbering over 1000, are termed Amer., Indian, or Amerind, or else, even more improperly, Red Indian. Their classification is far from easy. Some families have been more or less carefully studied, but the variety is so great that even experts differ widely in their estimates of the numbers of groups, of their mutual cultural interpenetration, and the various results of migration and conquest in the distant or recent past. It must be pointed out that the study of relationship between various languages and groups of languages, is extremely difficult when the hist. of the single languages cannot be studied, as is the case of nearly all the Amer. native languages. However, a broad geographical div. can be made into the following linguistic groups: (1) Canada and the U.S.A. (see under NORTH AMERICAN NATIVE LANGUAGES); about ten linguistic groups. (2) Mexico and Central America (see under MEXICAN AND CENTRAL AMERICAN NATIVE LANGUAGES); various linguistic groups. (3) S. America (see under SOUTH AMERICAN NATIVE LANGUAGES); about ten L. F.

See F. Muller, *Grundriss der Sprachwissenschaft*, 4 vols. (Vienna), 1876-88; C. Brockelmann, *Grundriss der vergleichenden Grammatik der semitischen Sprachen*, 1908; F. N. Finck, *Die Sprachstämme des Erdkreises*, 1909; A. C. Haddon, *The Wanderings of Peoples*, 1911; F. Boas, *Handbook of American Indian Languages*, 1911-12; R. Caldwell, *A Comparative Grammar of the Dravidian Languages*, 1913; Sir H. H. Johnston, *A Comparative Study of the Bantu and Semi-Bantu Languages*, 1919; A. Meillet, *La Méthode comparative en Linguistique historique*, 1925, and *Linguistique historique et linguistique générale*, tome II, 1938; A. Meillet and M. Cohen, *Les langues du*

monde, 1925; W. Schmidt, *Sprachfamilien und Sprachkreise der Erde*, 1926; V. Thomsen, *Geschichte der Sprachwissenschaft*, 1927; W. Graff, *Language and Languages*, 1932; L. Bloomfield, *Language*, 1933; U.S. Government Printing Office, *Foreign Languages*, 1935; J. Huxley and A. C. Haddon, *The Europeans*, 1935; J. R. Firth, *The Tongues of Men*, 1937; E. M. North, *The Book of a Thousand Tongues*, 1938; R. Benedict, *Race, Science and Politics*, 1910; B. Bloch and G. Trager, *Outline of Linguistic Analysis*, 1912; F. Bodmer, *Loom of Language*, 1943; J. O. Jespersen, *Language*, 1947; J. G. Weightman, *On Language and Writing*, 1947; M. Chapman, *How People Talk*, 1947; E. Partridge, *The World of Words*, 1948; K. L. Pike, *Tone Languages*, 1948; D. Diringer, *The Alphabet, a Key to the History of Mankind*, 1948; D. C. Pittman, *Practical Linguistics*, 1948; and M. A. Pei, *The World's Chief Languages*, 1949.

Linguistic Science, or Linguistics, is the science or body of knowledge which concerns the speech of human beings, i.e. language (q.v.). L. S. is concerned with the origin of speech (see LANGUAGE, ORIGIN OF); it notes variations in speech, laws governing these variations, and their transmission to other people, as well as the alliances and the differences between the various languages. A branch, known as historical linguistics, relates how, as a result of the movements of pop. and the migration of peoples, and of various cultural influences, the linguistic families (q.v.) have formed, how they have been brought into contact, and how they have influenced one another. See also LANGUAGE, ORIGIN OF; LANGUAGE, CLASSIFICATION OF; LINGUISTIC FAMILIES; and PHILOLOGY.

Linklater, Eric (b. 1889), Scottish writer, b. in Bonny, Orkney Is.; educated at Aberdeen Grammar School and Aberdeen Univ. He served with the Black Watch in the First World War and was invalided out in 1918. After the war he studied medicine but gave this up to take his degree in Eng. literature (1925). He then went to India, where he remained two years as assistant editor of *The Times of Bombay*, and was lecturer in Eng. literature at Aberdeen, 1927-28. He pub. two novels in 1929, *White Man's Saga* and *Poet's Pub*. For two years until 1930 he was in the U.S.A. as commonwealth fellow. His impressions of America were witty, and sometimes unkindly, fictionalised in *Juan in America* (1931), a book which helped to make his reputation as a humorous, zestful, and inventive writer. A number of books followed during the next ten years, including two biographies, *Mary Queen of Scots* (1933) and *Robert the Bruce* (1934). *Juan in China* appeared in 1937. On the outbreak of war in 1939 L. took part in the defence preparations of the Orkney Is., and in 1941 went to the public relations dept. of the War Office for which he wrote *The Defence of Colais*. After the war he became rector of Aberdeen Univ. (1945-1948). He has written plays for the stage and for broadcasting, and an

autobiography, *The Man on my Back* (1941). His book for children, *The Wind in the Moon* (1944), won the Carnegie prize.

Linköping, cap. of Östergötland in Sweden, 142 m. from Stockholm. It has a fine museum and a cathedral second only in importance to Uppsala Cathedral. It manufactures cloth and hosiery. Pop. 49,200.

Linley, Thomas (1732-95), Eng. musical composer, b. at Wells in Somerset. In 1775 he came to London, where he remained as musical director of Drury Lane Theatre for many years. He supplied the music to Sheridan's *Dianna*, as well as to other operas. But he is chiefly memorable for his charming setting to songs, and his music is sweet and melodious.

Linlithgow, John Adrian Louis Hope, first Marquess of (1860-1908), son of the sixth earl of Hopetoun, received, in 1902, the title of marquess of L. as a mark of appreciation for his services as first governor of the commonwealth of Australia. He d. six years afterwards, when his eldest son succeeded him as second marquess. The earldom of L. was a title held by the Livingstones in the beginning of the seventeenth century, some of whom also held the title of earl of Callender (see HOPETOUN). His son **Victor Alexander John Hope**, eighth earl of Hopetoun and second Marquess L. (b. 1887), soldier and administrator, was chairman of the joint select committee on Indian constitutional reform, which prepared the L. report, 1933. He was viceroy and governor-general of India, 1936-43.

Linlithgow, cap. of Linlithgowshire in Scotland, is a royal park burgh. It lies in a valley overlooking a loch 102 ac. in extent and is 17½ m. W. of Edinburgh. L. Palace was the bp. of Mary Queen of Scots, and is a quadrangle enclosing an acre of ground overlooking the lake. It is a massive edifice, crowned at each end by a tower. Pop. 8000.

Linlithgowshire, see WEST Lothian.

Linnæus, or von Linne, Carl (1707-78), Swedish botanist, b. at Rasmåla. He was intended for the Church, but his leanings towards botany led to his being given the charge of Prof. Rudbeck's botanical gardens and acting as deputy lecturer for Rudbeck in 1730. From the age of twenty-four he began to work at his famous classification of plants according to their reproductive organs, which he began to describe in his *Hortus Upsalensis*. In 1732 he undertook botanical explorations through Lapland and Dalecarlia, and in 1735 he went to Holland, where he met Gronovius and Boerhaave. While in Holland he completed his *Systema Naturæ*, *Fundamenta Botanica*, and *Genera Plantarum*. In 1736 he visited England and France, and returned to Sweden in 1738, when he estab. himself as a physician in Stockholm. In 1741 he became prof. of botany at Upsala. Besides the work already mentioned he pub. *Bibliotheca Botanica* (1738); *Critica Botanica* and *Classes Plantarum* (1738); *Philosophia Botanica* (1750); and *Species Plantarum* (1753). L.'s contributions to natural hist., more especially botany, are of great value. Although much of his work con-

sisted of the summing up of conclusions already reached by his predecessors, and although his classifications are sometimes at fault, the passion for order which he introduced into natural science, and his terse descriptions, proved of inestimable value to later botanists. His method of classification was based upon the examination of pistils and stamens. First he distinguished the plants without flowers from those which have flowers, redividing the latter according to their special characteristics. To him later naturalists owe the definition of genera and species and the uniform use of generic and specific names (i.e. the binomial system, under which the first name is that of the genus and the



CARL LINNÆUS

second that of the species, e.g. *Homo sapiens*; species named by him are distinguished by the letter L. following the scientific name, as *Bellis perennis* L. His style is a model of brevity and precision, with no possibility of ambiguous meaning; he methodically treated of each organ in its proper turn and used a special term for each, which never varied in meaning. The library and herbarium of L. were purchased by Sir James Edward Smith and transferred to England in 1781; they are now preserved in the rooms of the Linnean Society (founded 1788) at Burlington House, Piccadilly, London. See C. Linné, *Observations on Himself*, 1823; J. V. Carus, *Geschichte der Zoologie*, 1872; J. Sack, *History of Botany*, 1875 (Eng. trans., 1879); and W. Junk, *Linnaeus in Lichte neuerer Forschung*, 1925; also lives by D. H. Storer, 1792, and H. P. Malmsten, 1879 (in Ger.), and E. M. Fries (in *English Botanical Yearbook*, 1907). **Linnankoski, Johannes** (real name, **Viktor Peltonen**) (1869-1913), Finnish author, one of the men who with Kivi

founded modern Finnish literature was O. W. at Askola. His father was a vagabond labourer who often, tired of working on a farm, went from market to market with horses or laboured with the bands who pilot the timber floating down the rivers and lakes. The boy thus knew no settled home and had no chance of schooling but he heard from the lips of his illiterate parents many of the current folk tales, and managed to learn his letters and to read books. In 1881 he entered a school for teachers at Jyväskylä, not so much with the idea of making teaching a profession as to become educated. His fame chiefly rests on *The Song of the Red Flower* (1905) a novel which details the amours of a young man who works in guiding down the river the gigantic output of logs. Other novels and plays followed in rapid succession and he became the animating spirit of the Finnish League. Among other things he led a vast public movement to substitute genuine Finnish for Swedish family names. He then made a tour of Europe including England, France, Italy and Germany to see all he could of old civilisations. He issued another fine novel, *The Luggies* (1908) seven dramas and a number of short stories. See lives by W. Soderhjelm 1918 and A. Anttila, 1921.

Linnet, small bird belongs to the *Fringilla canabina* of Linnaeus. *Linola canabina* of modern ornithologists. It resembles the finch family and is very abundant in Britain, Europe, Asia and N.W. Africa. It received the name *L.* partly from its partiality for the seed of the flax plant (*Linum*) but it feeds readily on other seeds. The colour is grey or brown indicate the sex as well as the seasonal changes. The *L.* barely measures 6 in. in length, begins to breed in April and generally chooses some low lying bush for its home. The eggs, ranging from four to six in number are a delicate pale blue streaked with a purish brown.

Linoleic Acid ($C_{18}H_{34}O_2$) organic acid found as a glyceride linolin in linseed oil, it is the cause of the drying properties of that oil and may be prepared by saponifying the oil with caustic soda.

Linoleum, name given to a specific type of floor covering which was initially invented in 1860 by an Englishman, Fredrick Walton. It is a hard surfaced, pliable floor covering prepared by pressing or calendaring a plastic mass in a smooth sheet on to jute canvas or some similar material. The plastic mass is derived initially from linseed oil. Walton observed the rubber-like properties of thick, dried paint films and conceived the idea of making a rubber-like product by drying thick films of linseed oil. In his first process, the so-called *serim* process, he dissolved lead drier in linseed oil (the lead speeds the drying) and flooded the oil from the roof of a tall building on to sheets of fine cotton material called *serim*, hanging in the building. The oil in this film form dries to a skin. By repeated floodings at daily or more frequent intervals, over a period of several months, quite thick skins, sometimes 1 in. in

thickness are built up. The skins are cut down and after a suitable maturing period they are made into cement by heating with resin and gum in a steam heated vessel. At the correct point the cement is discharged on a cooling floor and cut up. *L.* composition in various colours is made by mixing the cement so formed with fillers such as ground cork or wood flour and colouring material using conventional mixing machinery such as is used for rubber or plastic compounding. The compound can be obtained in sheet or granulated form and various pattern effects can be obtained by the way the granulated or sheet material is fed to the calendar during the process of calendaring or hot pressing, the mix on to the jute fabric. After calendaring the *L.* is given a stoving treatment in warm stoves and this sometimes lasts for as long as twelve days. The backing may be protected with a paint surface.

L. can be made in various sizes and patterns. Thus plums, grape leaves, diamonds and marbles are common. Alternatively the plain material can be given a pattern effect by printing using print plants. A special type of *L.* is that called *mailed*. In the printed and pattern designs this is made by hand or machine shaped pieces on the jute fabric prior to entering the calendar. Fancy designs can be made on a separate horizontal machine which colours the compound in a particular form is fed through a screen on to the backing prior to hot pressing.

Walton claimed to have invented the same product twice. Thus in his alternative process he mechanically oxidised the linseed oil on steam heated vessels fitted with strong blades. The oil heated in the vessels is churned up by the rotary arm whilst air is blown through the mix. The product is discharged just before it becomes semi-liquid, and is then mixed into cement in the normal way. After returning to the process he invented an plant machine in which sheets of various coloured *L.* (unbacked) are fed to a rotary machine which automatically cut out a portion of the sheet to press on to the canvas.

The variety of *L.* has been much increased since the recent wide development of the plastics industry. The chief centre of *L.* production in Britain is Kieckhefer in Liffshill, but there are other centres in Dunfermline, Lame White and at Stain in Middlesex.

L. is not to be confused with felt back floor covering. This is made by printing a design on to a bitumen saturated felt. The back is given a protective coating too. Felt backs are hard wearing but quite cheap floor covering (see *Floorcovering*). See F. Walton *The Infancy and Development of Linoleum Floorcloths* 1923.

Linoleum Art, relief process of printing. High quality *L.* is mounted on a wood block, and the design cut thereon and transferred to paper by pressure or rubbing exactly as in woodcut (*q.v.*). *L. C.* is a twentieth century development of the printer's art, but despite being easy

to use the process is inferior to woodcut when fine work is required. See A. M. Hind, *A History of Engraving and Etching*, 1923, and M. Dolson, *Block Cutting*, 1928.

Linotype, see TYPE-CASTING AND TYPE-SETTING MACHINES.

Linseed seed of the common flax plant or flax, is used for making L. oil and oil cakes. The seeds are a transparent brown and of a narrow oval shape. The L. oil is obtained from the innermost coating of the seed, which consists of a thin layer of albumen containing a pair of large oily cotyledons. L. is a valuable food for cattle and poultry. It is used for poultices, but should never be applied to open wounds.

Linseed Oil is made by the process of pressing the seeds either with or without heat. The seeds are first bruised or crushed, then ground, and finally subjected to pressure in a hydraulic or screw press. The cold-drawn oil is purer than that obtained by means of steam, and yields 18 to 20 per cent oil. L. O. obtained by steam heat of about 200° C. yields 22 to 27 per cent oil, but is more rancid in quality. Cold pressing of the seeds yields an amber-coloured oil which is edible. The oil yielded by the steam process is a yellowish-brown, but if stored all moisture and mucilaginous matter gradually settle out; this kind of oil is used for varnish-making. Edible oil has a somewhat peculiar and unpleasant smell and flavour. Both raw and boiled oil are used by painters, the latter being serviceable especially for oil painting; it forms moreover, the chief basis of all varnishes. The simplest method of preparing boiled oil is to heat the raw oil in an iron or copper boiler three parts filled. When brought to the boil it must be allowed to boil for two hours longer, all scum and froth being removed. L. O. forms the basis of all printing and lithographic inks.

Linsingen, Alexander Adolf August Karl Klaus Ohmar von (1850-1935), Ger. general; b. at Hildesheim, Hanover, son of Wilhelm Friedrich Klaus von L. (1815-1889). Entering the infantry in 1868 he saw active service in 1870-71. In various corps he was captain, 1882; major, 1889; and colonel, 1897. He was major-general commanding 81st Infantry Brigade, 1901; lieutenant general commanding 27th Div., 1905; and general commanding 2nd Army Corps, 1909. In Jan. 1915 he took command of the 8. Army, and in July that of the army of the Bug—afterwards amalgamated with group of armies with which he held back the Russians, 1915-17. In March of 1918 he advanced into Ukraine, and in June was made chief in command of the Mark of Brandenburg.

Lint, material consisting of the fibres of the inner bark of the flax plant, is used for manufacturing the stoutest fabrics as well as the finest cambrics. It is also a special dressing for wounds, consisting of soft fluffy unravell'd linen cloth.

Linthwaite, tn. in the W. Riding of Yorkshire, England, 3½ m. S.W. of Huddersfield, on the Colne and Manchester Canal. Pop. 10,000.

Linton, William James (1812-98), Eng.

wood-engraver, b. in London. After some years' experience as journeyman engraver, he entered into partnership with John Orrin Smith in the production of the *Illustrated London News*. He became acquainted with Mazzini, the It. revolutionary, whose ideals and theories he eagerly embraced. He started a political jour., the *English Republic*, which proved a financial loss, and he was compelled to try his fortunes abroad. He set up a printing press in America, and wrote many valuable treatises on wood engraving and literary subjects generally.

Linton: 1. Tn. in Greene co., Indiana, U.S.A., 12 m. W. of Bloomfield. Pop. 6000. **2.** Small tn. in Cambridgeshire, Eng. on the R. Grant, 11 m. S.E. of Cambridge. The par. church is an interesting building of twelfth-century origin. There are a number of anc. houses, some with decorated plaster fronts. The fifteenth-century guildhall is near the church. There were formerly two fairs and a market. Barnham Hall, now a farmhouse, stands on the site of a priory of Cistercian Friars, founded about 1292. Here is one of the four vil. colleges of Cambridgeshire. Pop. 1600.

Lintol, Barnaby Bernard (1675-1736), Eng. publisher who figured as one of the victims in Pope's attacks in the *Parnell* and *Prologue to the Satires*. He pub. works of Steele and Gay.

Linum, or Flax, genus of hardy annuals and perennials of the family Linaceæ. The toughness of the fibre contained in the slender stems and the oil derived from the seeds make the genus of great economic importance. The Common Flax (*L. usitatissimum*) is not indigenous to Britain, though it is now being cultivated on an increasing scale, but three species are true natives: *L. catharticum* (Purgative Flax) is a small plant common on dry pastures bearing cymes of small white flowers. *L. perenne* is occasionally found in chalky places. Its petals are a beautiful but fugacious sky-blue. *L. angustifolium* has lilac flowers. The perennials are good rocky plants. *L. grandiflorum* and its varieties are rose and scarlet. *L. arboreum*, of shrubby habit, is yellow. For L. in industry see FLAX and LINEN.

Linus, formerly a heroic figure in Gk. legend, now typifies a digger or lamentation. Homer mentions the L. song, and the word is conjectured by most authorities to be derived from the Semitic *al-lanu*, 'woe to us.' The ordinary legend treats L. as a youth who has either succumbed to the fury of some god or goddess, or has been subjected to a violent death.

Lin Yu-tang (b. 1895), Chinese writer, b. at Chang-how. He was a high school teacher in China, and in 1936 emigrated to the U.S.A. His chief works are *My Country and My People* (1935); *The Importance of Lining* (1937); *Moment in Peking* (1939); and *Leaf in the Storm* (1944); (ed.) *The Wisdom of China* (1949).

Linz, or Linz, cap. of Upper Austria, on the Danube, and connected with its commercial suburb, Urfahr, by an iron bridge. It possesses two cathedrals, and a bishopric was instituted in 1784. Its

manns. include textile, engineering, and chemical products. Hitler (q.v.) attended the four lower classes of a secondary school at L., which was at the time a centre of Pan-Germanism, a fact which may have influenced his thought and subsequent career. The tn. subsequently became the site of the Hermann Goering aircraft works, and was subjected to heavy bombing by the Allies during 1944. It was entered by the U.S. Third Army in the last days of the war in May 1945. Pop. 129,000.

Lion (*Felis leo*), one of the largest of living carnivora (q.v.). At one time it undoubtedly lived in Europe, but now it is confined to the less civilised parts of Africa and S.W. Asia. Though a single species a number of varieties with more or less well-marked distinctions have been identified. The L. of Barbary extends over the whole of N. Africa, and has a deep yellowish brown fur. Its mane is more magnificent than in the other varieties, covering the neck and shoulders and reaching to the under parts. The L. of Senegal occurs further S.W. and is lighter in colour. A third variety ranges throughout S. Africa. Its chief distinction is a darker mane. The Persian or Arabian L. is smaller than any of the Africans and is paler. The so-called 'maneless' L. of W. India is not altogether without a mane. The L. hunts entirely by night, his favourite prey being such ungulates as antelopes, zebras, cattle, and pigs. A taste for human flesh is usually a sign of old age, when the teeth are worn and hunger makes the animal less shy. The lioness goes with young fifteen or sixteen weeks, and produces from two to six blind cubs at a litter. Mating appears to be for life, from one to four females to each male, and the cubs remain with their parents for about three years. The size of a full-grown male L. may extend to 10 ft. from nose to end of tail. The L. has been crossed with the tiger; the resulting hybrid, faintly striped, is known as a 'tigon.' The 'mountain lion' of the Rockies is the cougar or puma (q.v.).

'Lion,' Adin. Beatty's flagship in the battle of Jutland (q.v.). Launched in 1910 the L. had a broadside of eight 13.5-in. guns and sixteen 4-in. (10,000 lb.), being one of six swift battle cruisers. Tonnage 26,350, speed 28 knots.

Lion of Lucerne, see LUCERNE.

Lion of St. Mark, see VENICE.

Lions, Gulf of, the broad bay of the Mediterranean, washing the shores of S. France, and called by this name because of the roughness of the sea. The Rr. Rhone, Orb, Aude, and Tet discharge their waters into this bay, and the shore is indented for some distance by many miniature bays. The chief tn. is Marseilles.

'Lion, The,' see LEO.

Liocart, Jean Etienne (1702-89), Swiss painter who was renowned for his portraits, enamels, and pastel drawings. After studying under Gardille he visited Paris, Naples, and Rome, where he received a commission to paint the portraits of the pope and various cardinals. See life by F. Fouca, 1928.

Lipa, tn. in the is. of Luzon, Philippine Is., situated in a very fertile dist. Pop. 38,000.

Lipari Islands (anc. *Æolies Insulae*), group of volcanic is. in the Mediterranean off the N.E. of Sicily. They are seven in number: L., Vulcano, Stromboli, Salina, Panarola, Filicudi, and Alicudi, and are all mountainous, the climate being healthy and the soil very fertile. L. is the largest and produces quantities of grapes, figs, olives, and corn, while pumice-stone sulphur, nitre, soda, capers, and fish are also exported. Its cap. L. (pop. 15,600), on the E. side, has an active trade, and is the seat of a bishop. Salina is the most fertile of the group, and produces good Malmsay wine. Stromboli and Vulcano have still active volcanoes. The is. were a Carthaginian naval station during the Punic wars, until their capture by the Romans, in 352 B.C.; they were afterwards used by the Rom. emperors as a place of banishment for political prisoners. Its anc. use for this purpose was revived by Mussolini, who made the is. a penal settlement for those hostile to the Fascist regime. Following the successful invasion of Sicily by the allied forces during the Second World War, the is. were occupied by U.S. naval forces (Aug. 17, 1943). Area of group, 15 sq. m. Pop. 17,000.

Lipetsk, tn. in the Voronezh Region of the R.S.S.F.R., situated on the r. b. of the R. Voronezh, 70 m. S.W. Soap, sugar, and iron goods are produced. There are chalybeate springs in the vicinity. Pop. 66,700.

Li Po, see CHINA, *Chinese Literature*.

Lipogram (Gr. *Λιπω*, I leave out; *γραμμα*, a letter) is a species of composition in which the author leaves out one or more letters of the alphabet. The Gk. poet Lucian wrote lipogrammatic verse, and Triphiodorus, a writer of the sixth century B.C., compiled an *Odyssey* in twenty-four books, from each of which he excluded one of the letters of the Gk. alphabet. Lat. verse was also written in this style, and Ruckert wrote Ger. poems excluding the letter r. The Fr., too, and the Spaniards, have been addicted to this trick; Lope de Vega wrote five novels from each of which one of the vowels is excluded.

Lippe, or Lippe-Detmold, state of N.W. Germany, now embodied in N. Rhine-Westphalia, with the status of a Regierungsbezirk, known as Detmold. The surface is hilly, and in the S. are the Lippe-Scheer-Wald Mts. The chief rivs. are the Weser and its tribs. The area is noted for its forests, which yield excellent timber, and the rearing of cattle, sheep, swine, and horses (especially the 'Senner' breed). Potatoes, rye, beetroot (for sugar), oats, wheat, and barley are cultivated, and Lemgo is famous for its meerschäum pipes, and Salzuflen for its brine springs. The chief tns. are Detmold, Lemgo, and Horn. Before Nov. 1918 the state was a principality, but after that date it became a republic. Pop. 1,387,000.

Lippe-Schaumburg, see SCHAUMBURG-LIPPE.

Lippi, Fra Filippino (c. 1457-1504) natural son of Fra Filippo L., b. at Prato. He studied under Fra Duccio. His father's pupil and in 1480 painted the 'Vision of St. Bernard' an altar piece in the chapel of the Badia, Florence. Many others followed and in 1495 he executed the famous 'Madonna and Child between St. Victor, John the Baptist, Bernard and Zenobius' now in the Uffizi Gallery. He afterwards went to Rome and painted frescoes representing scenes from the life of St. Thomas Aquinas for the chapel in



W. I. Muns

A FILIPPINO 1311

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Santa Maria della Minerva but returned to Florence in 1493 and painted Christ appearing to the Virgin, now in the Uffizi Gallery. 'The Adoration of the Magi' (Uffizi) and frescoes for the Strozzi chapel (three works: 'Virgin and Child', 'St. Francis in Glory' and 'An Angel Adorning a fragment') are in the National Gallery. See lives by P. G. Konody 1911, A. Schaff, 1935 and K. Neilson 1938.

Lippi, Fra Filippo (c. 1406-69) Italian painter b. at Florence. About 1431 he began some pictures for a Florentine monastery, and also executed other paintings, but his greatest work was the collection of frescoes in the choir of Prato Cathedral which represent events in the lives of St. John the Baptist and St. Stephen. These exhibit fine painting of costume, and are also remarkable for their

colour and grouping the two best pictures being the 'Last' the 'Death of St. Stephen' in which he introduced the portrait of himself and that of S. Giordano. He spent his last years in Spello to working on some frescoes scenes from the life of the Virgin for the choir of the cathedral. These were finished by Fra Duccio. His 'Vision of St. Bernard', 'The Annunciation', 'St. John the Baptist with ox and lamb' and 'The Virgin and Child' are in the National Gallery. See C. Strutt *Ital. Paint.* 1906, H. Mendelsohn *Ital. Paint.* 1909 and B. Berenson *Italian Paint.* 1909.

Lippincott, Joshua Ballinger (1811-1893) American publisher b. in July 1811 in New Jersey. He was a bookseller in Philadelphia 1831-36 and founded in 1836 the house of J. B. Lippincott & Co. which by 1850 was at the head of the book trade in Philadelphia. After his death the firm was converted into a company. *Lippincott's Magazine* was founded in 1858.

Lippmann, Gabriel (1841-1911) French physicist b. at Houlbecq. He invented the capillary action for the measurement of the surface tension of liquids. In 1879 he was elected to the chair of mathematical physics at the Sorbonne and in 1882 became a professor of experimental physics. He was elected a member of the Académie des Sciences in the same year. Under his leadership and presidency of the scientific mathematical section of the Ecole Polytechnique, Hautes Etudes, Sorbonne. He published works on thermodynamics, acoustics and optics, capillary colour photography and electrical units, and was awarded the Nobel prize for physics in 1910. During the First World War he invented an apparatus to discover the presence of submarine submarines.

Lippmann, Walter (b. 1889) American editor and author b. in New York City, graduated at Harvard Univ. On the staff of the New York Herald until 1931 he was columnist or special writer for the New York Herald Tribune thereafter. In his *Factets to Words* (1929) he expounds the thesis that modern society requires radical analysis and objective value for the attainment of individual freedom rather than loyalty to causes and persons. In his *U.S. Foreign Policy* (1943) he gives the impactability of the doctrine of isolationism (the traditional American principle of non-interference or entanglement in European affairs) and in effect shows that the one dominant factor that made that policy apparently effective was the policing of the seas by the British Navy. His most remarkable work is perhaps the sequel *U.S. War Aim* pub. in 1944, in which he outlines a constructive international policy for the U.S.A., emphasizing that the association of states for the prosecution of the war against the Axis must be consolidated for the peace. He further critically analyses the unsoundness of President Wilson's policy after the First World War, demonstrating the

extent to which the Fourteen Points (q.v.) was unworkable. With prophetic vision he foresaw the concentration of countries, so far as their foreign policy was concerned, into those of an Atlantic community and those within the Russian orbit and develops the thesis that the rights of small nations are not identical with the right to have an independent foreign policy. His social philosophy, as set forth in *The Method of Freedom* (1931) and *The U.S. in World Affairs* (2 vols., 1932, 1933), is one that is opposed to any planned society, much less a collectivist economic system, but which reposes faith in a liberalism which is not far removed from the Victorian doctrine of *laissez-faire*, or one that justifies governmental interference in the interplay of economic forces only in cases of abuse.

Lippspringe, Bad, in. in Westphalia, Germany, renowned for its saline springs, the Arminius Quelle and the Liborius Quelle. Pop. 3000.

Lippstadt, in. in Westphalia, Germany, on the R. Lippe. The architecture of its prin. church, St. Mary's, belongs to the Transitional period. Engines, wire, and iron are manufactured. On April 1, 1945, contact between the U.S. First and Ninth Armies was made at L., thus encircling the Ruhr. Pop. 13,000.

Lipsius, Justus, or Joest Lips (1517-1606), Belgian classical scholar, b. near Brussels. He was for a time a teacher in the univ. of Jena, and in 1579 was prof. of hist. at Leyden, finally settling at Louvain as prof. of Lat. in the Collegium Busildianum. He was successively a Rom. Catholic, a Lutheran, a Calvinist, and again a Rom. Catholic. His greatest work was his *Tacitus*, which first appeared in 1575 and was five times revised and corrected. See F. van der Haeghe, *Bibliographie Lipsiana*, 1886-88, and V. A. Nordmann, *Justus Lipsius als Geschichtsforscher und Geschichtslehrer* (Helsinki), 1932.

Lipsius, Richard Adelbert (1830-92), Ger. theologian, b. at Gera. He studied at Leipzig, and was prof. at Vienna in 1861, at Kiel in 1865, and at Jena in 1871. He was largely responsible for the foundation and management of the Evangelical Protestant Missionary Union and the Evangelical Alliance. His writings deal chiefly with dogmas and the hist. of early Christianity. Among them are *Philosophie und Religion* (1865); *Glaube und Lehre* (1871); *Lehrbuch der Evangelisch-protestantischen Dogmatik* (1876); and *Die apokryphen Apostelgeschichten* (1883-87). See A. Neumann, *Grundlagen und Grundsätze der Hellenscharung von Lipsius*, 1896; also life by H. Weinel, 1910.

Lipton, Sir Thomas Johnstone (1850-1931), Scottish merchant, b. at Glasgow. He emigrated to America at the age of fifteen, and supported himself by working in a grocery store, etc. After some years he returned to Scotland and started a provision shop at Glasgow. His business gradually increased, and he was able not only to open shops all over the kingdom, but to purchase tea and coffee plantations in Ceylon. He also provided his own

fruit farms, bakeries, and bacon-curing estates, in England, as well as a packing-house for hogs in Chicago. In 1898 his business was converted into a limited company, of which he was chairman until his retirement in 1927 when he became life president. He competed unsuccessfully for the America Cup in 1889, 1901, 1903, 1911, 1920, and 1930, and owned the yachts *Erin* and *Shamrock*. He founded the Alexandra Trust to provide the poor with cheap and wholesome meals. He was knighted in 1898, made a baronet in 1902 and, subsequently, K.C.V.O.

Liquation, process of transforming a solid into a liquid. The term is used particularly of the melting of metallic mixtures in order to separate their constituents. The process is an important one in the refining of certain metals, as impurities can thus be efficiently and economically removed. In the purification of lead, for example, the metal is melted down slowly in a reverberatory furnace, and the scum formed by the oxidation of impurities is removed as it forms. This is continued until pure litharge is formed on the molten surface, by which time all the tin, arsenic, and antimony have been removed. L. is also useful in separating the constituents of an alloy, as under certain conditions there is a tendency for the metals to separate as they approach their respective melting-points in cooling.

Liquefaction of Gases, or GAS AND GASES.

Liqueur. This term is applied to beverages which have been sweetened and flavoured in such a way as to be highly palatable. The ingredients are essential in the preparation of these beverages, viz. (1) a powerful spirit or alcohol; (2) sugar or syrup; (3) some flavouring matter such as aniseed, elderberry, lemon, cloves, citron, peppermint, etc. Kummel is the popular L. of Russia, and is flavoured with caraway and caraway seeds. Noyau, or Crème de Noyau, is a Fr. cordial flavoured with bruised bitter almonds. Kirschwasser is a favourite L. in Germany, whilst Benedictine and Chartreuse are two highly favoured Ls. invented by two ancient monastic communities.

Liquid, substance which is capable of flowing, but which is practically incompressible. The physical states of matter may be classified as solid, L., and gaseous. A solid has a definite shape and a definite volume, a L. has a definite volume, but it assumes the shape of the vessel that contains it, while a gas is highly compressible, has no shape of its own, and fills any vessel into which it is put, e.g. if a gas tap is turned on for a few moments, coal gas will soon be found in every part of the room. The fundamental properties mentioned above are explained by the kinetic theory of matter, which, as we shall see, accounts for the many physical properties characteristic of a L.

Matter in all three forms consists of an aggregation of very small particles called molecules, whose linear dimensions are of the order of 10^{-8} cm.; it is, of course, quite impossible to see molecules even with

the most powerful ultra-microscope, and the number of molecules in 1 cubic centimetre of a L. is measured in millions of billions. These molecules are moving incessantly, and their velocities are affected by changes of pressure and temp. Further, in accordance with the universal law of gravitation, the molecules attract each other, and the freedom of movement of a molecule depends on its velocity and the attractions of other molecules on it. In a solid the molecules are packed together so closely that while they can move to and fro the attraction of the other molecules is great enough to restrict these motions within very small limits. Hence a solid has a definite shape, a definite volume, and is highly incompressible. In a gas the molecules are relatively widely separated from each other, and their mutual attractions are so small that they exert only a negligible control over the movements of each other. It is true that the numerous collisions that occur deflect the molecules from their paths and change their velocities at each collision, but the molecules are not anchored to a family group, and each one has its own life.

The state of affairs in a L. is of an intermediate character. While the control of the mutual attractions of the molecules is not strong enough to prevent a molecule from wandering about, it is sufficiently strong to prevent the molecule from breaking away from the general body altogether; thus a L. has a definite volume but no definite shape. An exception to the last statement occurs when a molecule, near the surface of the L., is travelling with sufficient speed and in the right direction, to break away from its fellows. This breakaway constitutes the phenomenon of *evaporation*. The molecule of a L. in its new freedom is termed a molecule of *vapour*. Only the high-speed molecules escape and the escape thus reduces the average speed of the molecules of the L. Now the average speed of the molecules increases with a rise in temp. and falls with a fall in temp. It follows, that evaporation is accompanied by the cooling of the L. If the L. is contained in a closed vessel, e.g. ink in a stoppered bottle, the escaped molecule, after various collisions with the molecules of air and the molecules of glass, returns to the L. and is dragged back to captivity. In the meantime other molecules are escaping and a state of equilibrium is soon reached when the number of molecules leaving the L. is equal to the number returning in the same time. The net evaporation is nil henceforward and the vapour is said to saturate the space about the L. If, however, the bottle is unstoppered few molecules will return once they have escaped and evaporation will proceed until there is no L. left.

Suppose a steady supply of heat is given to a L. The average velocities of the molecules are increased thereby and evaporation will be accelerated until the rate of loss of heat due to evaporation just balances the rate at which the heat is supplied. Evaporation, however, only takes place at the surface of the L.,

and the area of this surface may be relatively small, e.g. a kettle, while the rate of supply of heat may be considerable. In such a case the temp. of the L. rises and evaporation increases but not sufficiently to establish equilibrium. In that event a stage is reached when a bubble of vapour forms inside the L. and the pressure of the vapour is sufficient to prevent the bubble collapsing under the pressure outside it. Evaporation now proceeds into the bubble which increases in size and rises to the surface where it bursts. The L. is now *boiling* and it will be seen that the necessary conditions for boiling are (1) small surface area of L. and large supply of heat, (2) L. at a temp. where its vapour pressure is equal to that of the external atmosphere. Under 'normal' conditions of pressure, viz. 760 cm. of mercury, water boils at 100° C. On the top of Mont Blanc it boils at 85° C.

The molecules at the surface of a L. are subject to conditions quite different from those obtaining in the interior of the L., where a molecule is attracted in all directions because it is surrounded by molecules. A molecule at the surface is indeed attracted upwards by the molecules of air that pay fleeting visits to the surface, but it is subject to a much greater downward force of attraction due to the molecules of L. beneath it. Thus although there is no difference in the *constitutions* of the L. at the surface, the effect of this downward pull on the molecules there is very similar to an elastic skin confining the L. as it were, in a bag. The effect is known as *surface tension*. In spite of gravity tending to flatten them, small drops of L. are pulled into a shape that presents the least surface area for a given volume, viz. a sphere. Where the effect of gravity is small compared with the surface tension we get spherical surfaces, e.g. soap bubbles. Again if there is resistance to gravity so that a L. falls quite freely, the surface tension moulds it into drops, e.g. raindrops, the result of lead shot by pouring molten lead from the top of a shot-tower. The phenomenon of *capillarity* or the ascent of L. in fine tubes that is responsible for the distribution of sap in plants and trees is due to forces of attraction between the L. molecules and those of the material of the tubes, and it is connected with the phenomenon of surface tension. The mechanics of L. are discussed in the articles on *HYDROSTATICS* and *HYDROKINETICS*. See Sir W. H. Bragg, *Concerning the Nature of Things*, 1925, and *Critical Temperature and Heat*; J. S. Hildane, *Gases and Liquids*, 1928; T. Preston, *The Theory of Heat*, 1929; and H. Moore, *Liquid Fuels*, 1935.

Liquid Air, see GASES AND GASES.

Liquefaction of Gases.

Liquidation, see COMPANIES AND COMPANY LAW.

Liquid Fuel, see under FUEL.

Liquid Measure, see under WEIGHTS AND MEASURES.

Liquor Control. A part from the licensing laws legislation to restrict the practice of alcoholic indulgence began under the Defence of the Realm Act of 1914, which

embodied a regulation which prohibited the making of soldiers or sailors drunk while they were engaged in the defence of railways, docks, or harbours. It soon appeared advisable to extend the restriction to the civilian pop., especially in industrial dists., where the output of munitions was jeopardised by alcoholic intemperance. Later the need for drastic economy in food supplies caused a further extension of restrictive legislation. In 1915 a new gov. dept. was created under the D.O.R.A. of that year, called the Central Control Board (Liquor Traffic). It had wide powers, and its area of supervision by 1916 extended over practically the entire country. Its powers included the closing of any licensed premises or club, the regulation of hours of opening, etc. *See* under LICENCES AND LICENSING LAWS, and the inspection of licensed premises and clubs. Clubs were placed on the same footing as public houses. In 1921 the Board was abolished, and its powers were transferred to the Home Office. For existing statutory provisions concerning hours within which intoxicants may be sold or supplied in Great Britain *see* LICENCES AND LICENSING LAW. Various Bills have been introduced in recent years supporting Local Option (*q.v.*) and Prohibition (*q.v.*), but none has reached the statute book. The Scottish Temperance Act, 1913, contains local option sections and these came into force in 1920. An order was made about six months after the outbreak of the Second World War restricting the output of spirits to one-third of the 1939 production. Powers to deal with 'bottle parties' and other night resorts were contained in a Defence Regulation (12 C) issued on July 25, 1940. The Licensing Act of 1919 provides for the extension of state management in all 'new towns' (*see* SATELLITE TOWNS) and to adjacent areas. The powers of the secretary of state in a state management dist. include power to sell or supply intoxicating liquor for consumption on or off the premises; maintenance of hotels and inns; brewing of beer; and the purchase of any business carrying on any of the foregoing activities.

The earliest restrictive legislation in America prohibited the sale of alcoholic drinks to Indians. In 1857 prohibition was adopted in the state of Maine and spread later to other states. (For further information *see* PROHIBITION.) After many years of unsatisfactory local control Canada passed an Order in Council in 1919 prohibiting importation into a prov. which had estab. prohibition. Thenceforward till 1921 all the provs. except Quebec adopted general prohibition, but drink in Canada is now almost wholly under state control. In New Zealand liquor laws are based upon the Licensing Act of 1908, with amending acts in 1918, and a licensing poll is taken on the day of each general election. The system of 'restricted liberty' in Finland under the drinking law of 1932 came into operation early in that year. It gave the State a monopoly in the sale of alcoholic liquor. *See* E. Selley, *The English Public House*

as it is, 1927; C. E. G. Catlin, *Liquor Control*, 1931; *Report of the Royal Commission on Licensing in England and Wales, 1929-31*, 1932; R. B. Fosdick and A. L. Scott, *Toward Liquor Control* (New York), 1933; L. V. Harrison and E. Laine, *After Repeal: a Study of Liquor Control Administration*, 1936; E. A. Lewis, *Liquor Laws of the U.S.A.*, 1938; and G. B. Wilson, *Alcohol and the Nation*, 1940.

Liquorice, substance which is extracted from the roots of *Glycyrrhiza glabra*, a herbaceous perennial plant found in S. Europe. It has pinnate leaves, bluish flowers, and a tap root. This latter, which is about an inch in diameter, is sliced and boiled, and an extract known as Sp. juice is obtained by evaporation. As this solidifies it is rolled into sticks about 6 or 8 in. long and wrapped in bay leaves. It is sweet to the taste, and is much used as a demulcent in medicine.

Lira (Lat. *libra*, balance, pound), a modern It. silver coin which corresponds to the franc of the Belgians, Swiss, and Fr., and is divided into 100 centesimi. Also a Turkish gold coin.

Liriiodendron, *see* TULIP TREE.

Lisbon, cap. of Portugal, on the Tagus, 10 m. from its mouth. It is built on a succession of hills, some of them 300 ft. high, and has a very picturesque appearance. It is divided into four municipal dists.: the Alfama, or old tn., in the E.; the Cidade Baixa extending inland from the naval arsenal and custom house; the Bairro Alto, the high ground W. of Cidade Baixa; and the Alcantara, or westernmost dist. L. was a Rom. municipium, and a few relics remain. The Alfama contains the Castelo de São Jorge, a Moorish citadel, the St. Patriarchal, a cathedral founded in 1150, said to have been a Moorish mosque; the twelfth-century church of São Vicente de Fora; and the church of Nossa Senhora da Graça (sixteenth century), which contains a wonderful figure of Christ. The modern tn. dates from the period after the great earthquake in 1755, and has promenades squares, long, straight streets, and handsome buildings, including a national museum of art, containing Flem.-Portuguese paintings of the fifteenth century, gold and silver works of the fifteenth and sixteenth centuries, and a public library with about 250,000 vols. and 15,000 MSS. L. has a univ., and is also the seat of an archbishop with the title of patriarch, and of Parliament, the Palácio da Assembleia Nacional, in which the Houses sit, being a sixteenth-century Benedictine convent. Its port is one of the best in the world, and is well protected, and there is communication with S. America and Africa, as well as with all European ports. Fishing is important, and a variety of manufs. includes shipbuilding and textiles. New housing projects, by 'social assistance syndicates', of good design, and with much use of interior marble, have enhanced the beauty of L. Pop. 709,200.

Lisburn, tn. in N. Ireland, in the co. of Antrim. There are interesting historical ruins, such as Castle Robin and the Giant's Ring, an old fortification. Thero

is a monument to Bishop Jeremy Taylor in Christ Church Cathedral which embraces the three dioceses of Down, Connor and Dromont. The chief trade is the linen manuf. Pop. 12,000.

Lisieux, tn. in the dept. of Calvados, France, on the Louques, 30 m. from Caen. Before the campaign of 1941 it was a beautiful tn. with a pop. of 16,000, presenting quite a medieval appearance with its old timbered houses and ancient ruins. Buildings of interest were St. Peter's Church and the episcopal palace. There was an extensive woollen textile and manuf.

L itself stands on a hill overlooking the St. Loo. Pop. 4,200.

Lisle, Alicia (c. 1611-85), daughter and heiress of Sir White Beckenshaw and wife of John L., whom she married in 1640. During her husband's lifetime she probably shared his fortunes, but after his death in 1661 she retired to Moyles Court, and in 1665, at the time of Monmouth's rebellion, sheltered some of his supporters. She was tried before Jeffries and beheaded at Winchester. See J. Howell, *State Trials* 1809, 28, and H. B. Irving, *Life of John Jeffries* 1898.



F N 1

LISBON. TRAIÇA DOM PEDRO IV. (1) ROCCO

of cloth and shoddy and cotton. **L** is famous as the domicile of a modern saint, Thérèse de Lisieux (1873-97), who was canonised in 1925. In June Aug. 1941 the tn. was reduced to a shattered ruin, being wrecked by bombing in the first week of invasion (June 6-13), when it was one of the Ger. vital communication centres. The Gers fought a determined rearguard action here and the tn. was finally freed by Brit. and Canadian forces on Aug. 24. The beautiful white Basilica of St. Thérèse de l'Enfant Jésus, the great white dome of which dominates the entire valley in which **L** is situated, is undamaged. Pop. 12,700.

Liskeard, tn. and municipal bor. in the co. of Cornwall, England, 12 m. S.E. of Bodmin. The surrounding country is picturesque and hilly and there are stone and slate quarries in the neighbourhood.

Lisle, Charles Marie Leconte de, see **LECONTE**.

Lisle, Claude Joseph Rouget de, see **ROUGET**.

Lisle, hard twist cotton yarn having a twist per inch greater than that put into ordinary cotton. Because of this high twist **L** is strong and resilient and possesses cool, absorbent and evaporating qualities. It is more expensive than ordinary cotton. *Merised L* is formed by the same process in which two threads, one with a flat-hand and one with a right hand twist, are finally twisted together, but in addition the cotton is treated with a caustic soda solution. An appearance of lustre is thus obtained. It is used to reinforce the toes and heels of stockings and in the manuf. of fine gauge sheer stockings called Chiffonables. See A. W. Fley, *Stockings*, 1916.

L'Isle-Adam, see **VILHERS DE L'ISLE-ADAM**.

Lismore: 1. Is. at the mouth of Loch Linnhe, Argyllshire, off the W. coast of Scotland. It measures 9½ m. in length and 1½ m. in breadth. The lower portion of Loch Linnhe is divided by this Is. into two channels, the Lynn of Morven and the Lynn of Lorne. The Is. was at one time the seat of the bishops of Argyll, who occupied Achinduln Castle, now a ruin. Pop. 400. 2. City and municipality in the co. of Ross, New S. Wales, Australia, on the R. Richmond. It was first settled in 1814 and named after the Scottish Is. (see above). It is the seat of a Rom. Catholic bishop. The dist. is fertile, and there is a brisk trade in dairy produce and timber. L. was proclaimed a city in 1946. Pop. 16,000. 3. Tn. of Ireland in the co. of Waterford, 15 m. W.N.W. of Dungarvan. It stands on a rocky height overlooking the Blackwater R. It possesses a fine baronial castle and the cathedral of St. Carthagh. L. was the site of a monastery founded in 633 by St. Carthagh. In the National Museum, Dublin, is the L. Crosier (q.v.). Pop. 1500.

Lismore Crosier. An outstanding example of medieval Irish art, believed to date from the twelfth century, like the equally well-known Cross of Cong. The staff is of yew and the crook of bronze with bosses of coloured enamel. It was recently presented by Lord Hurlingham to the National Museum in Dublin.

Lissa: 1. The outermost is. of the Dalmatian Archipelago, Yugoslavia. The prin. products are wine and sardines. Two naval actions have been fought near the Is. The first was in 1811 between a Fr.-Venetian squadron of frigates under Commodore Dubordien and a Brit. squadron under Capt. (afterwards Sir) Wm. Hoste. Dubordien was killed and Hoste was severely wounded. The result was a Brit. victory against great odds, four prizes being taken to Malta by the victor. The second was an engagement between the Austrian and It. Navies in 1866 and resulted in a victory for the Austrian commander, Tegethoff. The battle was remarkable as being the earliest sea fight between modern ironclad steam-driven warships. Pop. 19,110. 2. Tn. in Poznań, Poland, 25 m. N.E. of Glogow. The chief manufs. are cloth, linen, shoes, and machinery, and there is also some trade in fur. Pop. 14,400.

Lissauer, Ernst (1882-1937). Ger. author, b. in Berlin, son of Hugo L., councillor of commerce. He attended the univs. of Leipzig and Munich. His publs. began with *Der Acker* (lyrics) (1907). In 1914 he began issuing at Göttingen a 'flying sheet' called *Worte in die Zeit*, which was discontinued the next year. The first issue contained his celebrated Hymn of Hate (*Hassgesang gegen England*). He wrote some plays, *Werkmann* (1921); *York* (1921); and *Das Weib des Jephta* (1928). See life by C. K. Brand, 1923.

Liszt, Friedrich (1789-1846). Ger. economist, b. at Renthlingen. He was a disciple of Adam Smith, but agreed with Hamilton

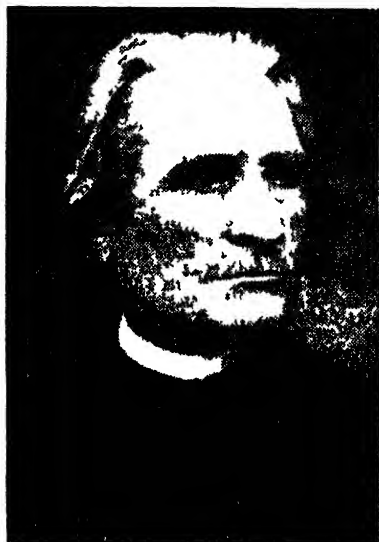
in his strictures on his doctrines. His chief work was *Das Nationale System der Politische, Ökonomie* (1841). L. strongly advocated the extension of the Ger. railway system, and the estab. of the 'Zollverein' was largely due to him. See E. M. Hirst, *Life of Friedrich List and Selections from his Writings*, 1903; A. Sommer, *Friedrich List's System der politische Ökonomie*, 1927; also life by F. Lenz, 1936.

Listel, see under **FILLI T.**

Lister, Joseph, Lord (1827-1912). Brit. surgeon, b. at Upton, Essex. From 1860 to 1869 he was prof. of surgery at Glasgow Univ., from 1869 to 1877 prof. of clinical surgery at Edinburgh Univ., and from 1877 to 1893 at King's College, London. He became sergeant-surgeon to Queen Victoria in 1878, was created a baronet in 1883, and first baron in 1897. He was president of the Royal Society from 1899 to 1900, and president of the Brit. Association in 1896. He is famous for the discovery of the antiseptic system of treatment, which has revolutionised modern surgery. His earlier work consisted in research on muscle cells, and he discovered that the size of the pupil of the eye was regulated by the plain muscle cells of the iris. L. proved conclusively that the presence of ammonia in the blood was due to disease, and not, as his contemporaries held, to the natural liberation of this gas to coagulate the blood. As a surgeon L. was deeply concerned over the number of deaths occurring as a result of infection of wounds. He had heard of Pasteur's work, and, connecting pus formation with the possible presence of bacteria or other minute organisms, L. sought chemical methods of sterilising apparatus and wounds. He tried carbolic acid with such marked success that he pub. *On the Antiseptic Principle in the Practice of Surgery* (1867). He did much to improve surgical dressings and the sanitation of hospitals. He recommended the use of antiseptics in war, and invented a method of isolation of single bacteria. He was also responsible for the introduction of the catgut ligature. See R. L. Godlee, *Life of Lord Lister*, 1921, and H. C. Cameron, *Joseph Lister, the Friend of Man*, 1913.

Liszt, Franz (1811-86). Hungarian composer, conductor, and virtuoso pianist, one of the most important figures in the development of modern music, b. at Raiding in Hungary, and studied under Czerny and Salieri in Vienna (1821-23), Paer (1823), and Reicha (1826) in Paris. By this time he had won considerable fame as a pianist in Vienna, Paris, and London. During his sojourn in Paris in 1830-32 he came into touch with the Romantics (Berlioz, Chopin, George Sand, etc.), and two years later he began his liaison with the Countess d'Agoult. The next few years were spent travelling in Switzerland and Italy; he has recorded his impressions in the famous *Années de Pèlerinage* (1842). These pieces, the great B minor Sonata (1853) and the two Concerti, are the finest of his innumerable contributions to piano-forte literature, which include transcrip-

tions of songs and of symphonic works for wind instruments etc. His chief orchestral writings are connected with his Weimar career (1818-61), e.g. the symphonic poems, the *Dante* and *Faust* symphonies, etc. In 1865 he took holy orders becoming an abbot, and henceforward his works were principally of a sacred character: the *Trance* (1866) and other masses, *Christus* (1866) psalms and the Requiem for male voices and organ. He also left



FRANZ LISZT

some very beautiful songs. See F. P. Mann *Liszt: Artist and Man* (1911) 10 (trans. by E. Cowdell 1882) F. Newman *The Man Liszt* 1934 and S. Siltwell *Liszt* 1934.

Litany (Lk. xvi. 7) form of prayer consisting of a repetition of supplications for the needs of the Church. At first an essential part of the liturgy or mass later it developed a new form in which it was sung in procession on the way to the church before the service. It was particularly associated with times of penitence or calamity and so acquired a penitential character. The earlier form was used in Christian assemblies from the earliest times but the date of introduction of the processional form is uncertain, 416 is given for Constantinople and the time of Justinian for Antioch and Marseilles of Vienne is said to have composed (c. 470) a L. for use at Ascensiontide in parts of Gaul. But whatever the date was Ls. were common in the sixth century, the first synod of Orleans (A.D. 511) enjoined their use for three days before Ascension all over Gaul, while the synod of Gerunda

(517) provided for two sets of Ls., one to be observed for a week at Whitsuntide and another at the feast of All Saints. Again a synod of Paris (573) ordered Ls. to be said for three days at the beginning of Lent, and the fifth synod of Toledo (639) gave injunctions for the recital of Ls. for three days from Dec. 14. In 590 Gregory the Great introduced at Rome a *litania septiformis* or a sevenfold procession of clergy laymen virgins married women, widows poor and children. Of Roman institution also is the procession for St. Mark's Day which the synod of Claveshoe (747) ordered to be held 'after the manner of the Roman Church'. The L. probably consisted at first of the repetition of the words 'Kyrie eleison,' but became gradually enlarged and later on was addressed to the Holy Trinity the Blessed Virgin and saints the people's response being 'Ora pro nobis' if it was directed to the Blessed Virgin or a saint, and 'Libera nos' if addressed to God. The form in the Anglican Prayer Book contains no invocation of the Virgin or saints but otherwise is similar to the ancient form. In this part of the morning prayer. In the Roman Catholic Church the recitation of the Ls. in procession if possible is enjoined on St. Mark's Day (April 25) the Rogation days Holy Saturday the eve of Whitsun and at the Forty Hours Devotion. It also precedes the ceremonies of ordination and the consecration of a church. Six other Ls. are recognised for optional use the best known of which are the L. of Loreto in honour of the Blessed Virgin; L. of the Sacred Heart and L. of the Holy Name Jesus. See N. Strass *Litaneien und Litaniae* 1901 and J. Schuster *See a monachia* vol. 1 (Paris 1924).

Litchfield, city of Montgomery co. Illinois, U.S.A., 6 m. N.W. of St. Louis. It is an important railway centre and vital to the city and one are found in the neighborhood. It manufactures and could use milk. Pop. 7000.

Literary Forgery consists in the pub. of literature which purports to be what it is not. It has been practised by many writers and a notable example was the *Epistles of Phalaris* a late Greek forgery, traced to the school by Bentley in 1697. Among literary forgers may be mentioned (1) George Isidore Maza (c. 1679-1761) who invented an elaborate alphabet and grammar and religion of his own, and presented Bishop Compton with the catechism in his invented language which he styled Lormosa. He also pub. a fabricated Description of Lormosa in 1704. (2) James Macpherson (1736-96), who issued two epic poems *Inglal* (1762) and *Femora* (1765) which he alleged to be trans. from the Gaelic of a poet called Ossian. (3) Thomas 'Hatterton' (1752-1770) who began to fabricate Thomas Rowley's verses (1765) which were pub. as genuine fifteenth century poems in 1777 and 1782. (4) Bodmann (1734-1820), prof. and librarian at Mainz, who forged two at least of Johann Gutenberg's works one of which he put forward as an autograph letter of Gutenberg to

a fictitious sister of his named Bertha. (5) Wm. Henry Ireland (1777-1835), who forged deeds and signatures of, or relating to, Shakespeare (1794), made a transcript of *Lear* and extracts from *Hamlet* in feigned handwriting, deceiving even such experts as Joseph Warton and George Chalmers, and fabricated pseudo-Shakespearean plays, *Fortierna* and *Rowena*, and *Henry II.* (6) John Payne Collier (1789-1883), who forged marginal corrections in the Egerton folio of Shakespeare before 1841, and in the Perkins folio before 1852, and brought out eds. of Shakespeare based on these forgeries. (7) Richard Pigott (c. 1828-89), who wrote articles entitled 'Parnellism and Crime' in *The Times* newspaper, in which he labelled the Home Rule party, and also pub. letters purporting to have been signed by Parnell which condoned the Phoenix Park murders. (8) Thomas J. Wise (1859-1936) was a successful London business man and a genuine bibliophile. He amassed one of the great libraries of the world and compiled bibliographies and catalogues which are described as 'unmatchable as the performance of one man' by Wilfrid Partington, in his *Thomas Wise in the Original Cloth* (1917). However, he was simultaneously forging first eds. for sale, which his many literary friends in all innocence recommended as collectors' treasures. One of his triumphs was to persuade Browning of the genuineness of a 'first ed.' of Mrs. Browning's *The Runaway Slave*. Correspondents in the *Athenaeum* attacked his 'first eds.' of Stevenson's *Some College Memorabilia* and Morris's *Sir Galahad* as forgeries; and Cook and Wedderburn exposed 'first eds.' of some Ruskin pamphlets. Wise, however, pursued his career unperturbed, but shortly before his death Messrs. Carter and Pollard, in *An Enquiry into the Nature of Certain Nineteenth-century Pamphlets*, made it clear that he had forged more than fifty 'first eds.' of the writings of sev. famous authors. Wise died without attempting any defence. His usual method was to circulate reprints to which he had given a date earlier than the genuine one, and he was detected by the fact that the paper and type used could not in fact have been utilised at the dates given.

Literary Prizes. Their main purpose should be to encourage comparatively unknown authors and to create a wider public for those who deserve to be better known. The monetary value of prizes for which Brit. authors may compete is, except for the Nobel prize for literature, far outweighed by their potential publicity value. Since 1919 few of the awards in Britain have been to unknown authors, but a high proportion have been given to works of a lasting value. The James Tail Black memorial prize is the most valuable offered in Britain, and was founded in memory of a partner in the publishing firm of A. & C. Black. Two prizes of about £250 each are given, one for a work of fiction, the other for a biography. In 1940 they were won by H. F. M. Prescott for *Spanish Tudor* and Charles Morgan for *The Voyage*. The Hawthornden prize was

founded by Miss Alice Warrender for a work 'of imaginative literature' by an author under forty-one years of age; it consists of £100 and a silver medal. In 1939 it was gained by Christopher Hassall's *Penthesilea*, and in 1940 by James Pope-Hennessy's *London Fabric*. The Stock prize was formerly known as the Prix Fémina-Vie Heureuse Anglus, and is an ann. prize of £10, presented by the Fr. magazines *Fémina* and *Vie Heureuse*, for the best work of imagination by one of the younger Brit. authors, or one considered not to have received adequate recognition. (There is a reciprocal Eng. prize for Fr. authors now known as the Hemenann prize.) Robert Graves's *Count Belisarius* gained the prize in 1939. The king's gold medal for poetry is offered, though not always awarded, by the king for a vol. of poetry in Eng. by a Brit. subject; it is given for a poet's first or second book, or to a poet under thirty-five. In 1937 it was given to W. H. Auden's *Look, Stranger!*, and in 1940 to Michael Thwaites's *Milton Blind*. The Carnegie medal is awarded for the year's best book of Brit. authorship and production for children; the decision rests with a committee of the Library Association. Not only literary merit, but printing, paper, etc., are taken into account. It was won in 1940 by *Visitors from London*, written by Kitty Burne, illustrated by Ruth Gervis, and pub. by Dent's. The Nobel prize for literature is the most valuable of literary awards, being worth about £8000. It is one of the five prizes founded by Alfred Bernhard Nobel (1833-96), and is awarded to 'the person who shall have produced in the field of literature the most distinguished work of an idealistic tendency.' In fact, an author gains the award for the general excellence of his work rather than for any specific pub. Authors are nominated by the Fr., Sp., and Swedish Academies, the final choice being made by a committee of the list of these. There is no consideration of nationality. Among the Brit. prizewinners have been George Bernard Shaw (1925), John Galsworthy (1932), and Pearl Buck (1934).

Literary Societies flourish in most towns, and are conducted so that persons interested in literary studies may meet together for the exchange of discussion, usually following a thesis expounded by a particular member on some literary topic. Many churches conduct such societies, the popular circle associated with the City Temple, London, being an example. Most univs. and schools organise such societies. In the univ. centres of most countries L. S. are formed in conjunction with archaeological and historical associations, and conduct research on an international scale. In Great Britain the leading L. S. and the dates of their foundation are the Royal Society of Literature, 1825; the Manchester Literary Club, 1847; the Scottish Society of Literature and Art, 1886; the Irish Literary Society and the Library Association of, 1887. In the U.S.A. there is the Amer. Literary Association, 1876, and the Carnegie

Institute of Washington, 1902, while important centres of literary activity are found in all the prin. tns. In France the prin. L. S. are the Société Philologique, 1827, and the Société des Bibliophiles, 1820.

Literature, see **DIDACTIC POETRY**; **EPIC POETRY**; **NOVEL**; **PROSE**; **SHORT STORY**; **VERSE**, etc.; also **ENGLISH LITERATURE**; **FRENCH LITERATURE**; and the sections on *Language and Literature* under the names of countries.

Litharge, monoxide of lead (PbO). It is obtained by oxidising lead at high temp., two forms of the monoxide being known; one form, called massicot, is obtained at moderately high temps., while the second form, or *L.*, is obtained by fusing massicot and allowing the molten mass to solidify. In the process of cupellation of argentiferous lead the lead is heated in a furnace made of, for example, bone ash mixed with pearl ash, and subjected to an oxidising atmosphere. The lead is oxidised to *L.* (hence the name *L.*, which means 'silver stone'), and this is blown off by a special blast, or is absorbed by the bed of the furnace, leaving the molten silver behind. *L.* is a yellowish powder, and is used in the manuf. of flint glass, and of glazed earthenware, and in the preparation of quick-drying oils and varnishes. It is the source of the preparation of lead nitrate and the basic acetate used for pharmaceutical purposes.

Litherland, par. and mkt. tn. of Lancashire, England, 5 m. N. of Liverpool, of which it is a suburb; it has manufs. of matches. Pop. 18,700.

Lithgow, William (1582-1650), Scottish traveller and writer, b. in Lanark. He left Scotland about 1610 and for nineteen years travelled in Europe, the Levant, Egypt, and N. Africa. The account of his adventures, including his narrow escape from the Inquisition at Malaga through the intervention of the Eng. consul (1621), will be found in his *The Totall Discourse of the Rare Adventures and Painfull Perambulations of long Nineteene Yeares Travayles* (London, 1632; new ed. 1906). Other writings of his are *A True and Experimental Discourse upon the last siege of Breda* (1637); an account of the siege of Newcastle and battle of Marston Moor (1645); and six poems (1618-40).

Lithgow, township of Cook co., New S. Wales, 70 m. W.N.W. of Sydney, in a valley of the Blue Mts. There are potteries, breweries, iron works, saw mills, and brickfields. Pop. 11,000.

Lithic Acid, see **LITHIC ACID**.

Lithium, symbol *Li*, atomic number 3, atomic weight 6.94, a metallic element of the alkali group discovered in 1817 by Arfvedson, is a rare metal, but is widely distributed in small quantities in sea and riv. water and in plants. Important mineral silicates containing *L.* are petalite (2.7-3.7%), lepidolite, or lithia mica (1.3-5.6%), triphylite, and spodumene. It is prepared by electrolysis of the fused chloride obtained from lepidolite. *L.* is a silvery-white metal which cuts easily and tarnishes readily; it is extremely light (sp. gr. .53) and has a higher melting-

point (186° C.) than the other alkali metals. An important difference between *L.* and the rest of the alkali metals lies in the fact that its phosphate and carbonate are almost insoluble in water. The carbonate and citrate are used in medicine in cases of gout and gravel.

Lithography (Gk. *lithos*, a stone, and *graphein*, to write), which may be classified in two groups, fine art and commercial, is a planographic process, the original principles of which were based on the antagonism of grease and water, the disposition of greasy substances to adhere to one another and the property of absorption possessed by calcareous stones. Lithographic stone is a sedimentary limestone (calcium carbonate, $CaCO_3$) belonging to the Oolite strata of the Jurassic system. It varies in colour from creamy yellow to dark brown grey, the darker the colour the harder the stone. The best varieties yet discovered are in the Pappenheim-Kellheim dist. in Bavaria, near to the home of the inventor of the process, Aloisius Senefelder. But for this coincidence *L.* might never have been discovered. The stone is quarried in large flat slabs in a small manner to slate, and interesting fossils are frequently disclosed in quarrying. Until employed in *L.* the stone was principally used for paving and was used in St. Peter's Cathedral, Rome, for this purpose. It is porous and brittle but can be polished to an almost glass-like smoothness. This makes it an ideal surface upon which to work and artists can obtain extremely delicate results with pen and brush; the size in general use vary up to 64 x 11 in., thickness being 2 to 1 in. according to size.

Before use for *L.* the stones are levelled by either planing or grinding, the edges are rounded off, and finally the surface is ground and polished with sandstone, water-of-Ayr stone, and water. In this chemically clean condition the surface of the stone is extremely sensitive to grease. The design or image is then imposed by the artist using brush, pen, and lithographic writing ink on polished stone, or by using lithographic crayon or chalk on grained stone. It is impossible to draw a continuous tone-picture on smooth stone owing to the fact that all grease applied ultimately attains the same density when rolled up with printing ink. It is therefore necessary to obtain tone values by line shading (cross hatching, etc.). Softer and more gradual tone values may be obtained by first grading or roughening the surface of the stone with fine sand. This permits the artist to apply his crayon or chalk much as he would apply pencil to cartridge paper, the drawing in effect being divided into particles of varying size, large in the shadows and small in the light. Interesting effects were obtained by some early artists by the use of needles and pickers. Once the image has been applied to the surface of the stone it is necessary to desensitise the non-image areas to simplify printing. This is done by the application of dilute nitric acid and gum arabic solution. This has the effect of lessening

the possibility of the ink on the roller adhering to the non-image areas, also the gum settles in the pores of the stone and being hygroscopic attracts moisture to itself and keeps the surface more uniformly moist for a longer period. After the stone has been treated it is moistened with water and while in this damp state an inking roller is rolled back and forth across it, the moisture is repelled by the greasy image to which ink from the roller adheres. Rolling must stop before the moisture dries out from the non-image areas or these will also take ink. It will be readily observed that in this way the image may be charged with ink. A sheet of paper is then laid on the surface of the stone, and this is covered with a few sheets of waste paper and a sheet of metal, usually zinc or brass (the tympan). The stone is then passed through a press under considerable pressure and the ink on the image is transferred to the paper. Innumerable impressions may be taken in this way. This method of printing is known as direct printing, the impression being taken by forcing the paper into direct contact with the printing surface. One great disadvantage of the method is that all matter has to be drawn in reverse. Because of this complication specially coated papers known as transfer papers were devised. These consist of a good paper coated with a mixture of plaster of paris, flour and starch with sometimes some gelatine. When dry this coating can be hot rolled to give a glazed surface or rolled between grained plates of any desired grain. Much work was and is done by drawing the design in the greasy ink or crayons on paper right way round and then transferring it to the stone. In the same way, when multiple reproduction of the work is required, labels, etc., impressions may be pulled on transfer paper from the original drawing using an extra greasy ink on the roller. These transfers are patched or stuck on a sheet in any required number, transferred back to a large stone and impressions taken from the multiple. This commercialization of L. led to a demand for greater speed of production. Various improved hand-presses were produced and in 1872 a machine was built by Sigsbee with a reciprocating bed and a cylinder. This was known as a direct flat-bed machine and was driven by steam power; the speed increased to about 800 impressions per hour. It is to be noted that in direct lithographic printing a good smooth paper is essential for results of high quality.

Multicolour L. was common about this time and much time and skilled work was necessary to obtain the desired facsimile reproductions, as many as twenty to thirty colours being employed. The method adopted is simple: the artist prepares an outline drawing of his subject showing all the details in the colour scheme. This outline is transferred to stone and impressions are pulled, one for each colour. These are dusted with an aniline powder and retransferred each to separate stones. The artist then draws each colour separately, and the

stones are then prepared for printing. The yellow is usually printed first, then the other colours are superimposed in perfect register one after the other until the job is complete. In the early days of L. fine work was sometimes engraved or etched on stone in much the same way as on copper plate (see below).

About 1860 when rotary letterpress printing was being developed attempts were made to build rotary lithographic machines incorporating stone cylinders. These proved costly and useless, and although paper plates coated with stone were tried later, they met with very limited success. Somefelter had proved that sheet zinc could be used, but the chemical control of work on the metal proved a great barrier. Finally in the early years of the present century a direct rotary machine utilizing aluminium plates was built by the Aluminium Company of New York. The method was successful and similar machines are in use to this day. Further experiments with plates of zinc proved its value as a printing surface and owing to its lower cost this metal practically ousted aluminium. Both zinc and aluminium, however, are non-porous and in order to make the metal retentive of water and grease, it was found necessary to create an artificial porosity on its surface; this was done by graining the metal in much the same way as stone. Modern graining is done by fixing the plate in an oscillating tray and graining with carborundum or a similar abrasive under a layer of glass marbles. Sand blasting is also used in some continental countries. In direct printing, however, this grain tended to break up the sharpness of the design, and although speed increased to some 1800 impressions per hour the quality of the impressions deteriorated. On nearly all lithographic machines moisture is applied by means of rollers covered with flannel and imitation moleskin. Zinc and aluminium plates also give trouble owing to the ease with which both metals oxidise in damp conditions. This necessitates considerable care in use.

The indifferent quality of work printed on direct rotary machines prompted investigation of better methods, and it was discovered that a process known as offset printing (which had been in use for some twenty to thirty years in the tin printing trade) could be applied to paper. About 1875 R. Barclay invented a machine for printing by offset on tin. Instead of forcing the tin against the stone a cylinder clothed with a rubber blanket was rolled over it. The tin was then pressed lightly against the rubber blanket by another cylinder and the impression was passed or offset from one to the other. This not only gave a vastly improved impression but removed the necessity for heavy pressure and thus permitted higher speeds. This machine was ultimately adapted for paper printing and it was found that owing to the flexibility of the rubber blanket perfect impressions could be taken without effort on rough-surfaced paper because the

rubber reached down into the grain quite easily. This gave new life to the fine art side of L. and to-day cartridge paper is one of the favourite papers of the offset printer. From 1900 to 1905 Ira Rubel, an Amer., developed the rotary offset process and brought it to this country. Eng. machine designers adopted it and George Mann designed a machine based on the existing direct rotary carrying a rubber blanket on what had been the impression cylinder and an additional cylinder for the impression. This was known as the Mann Standard offset machine, and models are still in use to-day. One of the advantages of offset was that now the artist could draw his work the right way round. Much trouble was experienced with indifferent types of rubber blanket in the early days, but now these blankets have reached a very high standard of perfection. Some idea of the versatility of offset may be gathered from the fact that perfect impressions may be printed on surfaces ranging from glass to canvas. With the advent of offset machines construction became lighter; this permitted much speeds and it became necessary to fit automatic feeders. Multicolour machines were designed and to-day sheet-fed machines in common use print two, three, and four colours simultaneously and speeds of 6000-8000 impressions per hour on single colour machines are commonplace. The development of the offset machine led to the design of web- or reel-fed machines doing similar work to the newspaper rotaries. The latest developments tend to even greater speeds and already an Amer. machine prints four colours back and front of the sheet at the rate of 20,000 impressions per hour.

With the development of offset came the development of photo-L. This is simply a method of imposing an image on the printing surface by photographic means instead of by transferring or drawing in greasy inks. Experiment in this sphere started at much the same time as plate printing, but development was slow and not until about the time of the First World War did it become widely used. Now it is gradually superseding transferring in commercial L. It involves slightly different principles from ordinary L. Whereas the latter is definitely grease-repelling water photo-litho image is one which repels water or is water-resistant. In repelling water it dries and will accept ink of a much less greasy nature from the roller. This makes it useful from the printer's point of view because greasy inks tend to scum and tint in printing. In order to protect the photo-litho image it is reinforced with greasy substances which serve to increase water repulsion and reduce wear in printing. The process is divided into two groups in much the same way as stone work, i.e. line work and tone work. In line work an ordinary negative is prepared in dry plate, wet plate, or film by normal photography. Tone work, however, covers similar subjects as would normally be done on grained stone and it is necessary to break up the image into

tiny particles for the same reason. This is done by placing a crossline screen in front of the plate in the camera which divides the subject into tiny dots and produces a result similar to the illustrations normally seen in newspapers (see *Process Work*). An almost unlimited range of tonal values may be obtained in this way. When making a printing-plate by photo-litho the plate is coated evenly with a light-sensitive collod, usually a mixture of egg albumen and ammonium dichromate, and dried. The negative is laid in position on the plate in a vacuum frame, unwanted areas are screened off, and the plate is exposed to the light of arc-lamps. The light passes through the transparent areas of the negative, reacts on the coating and causes it to harden. After suitable exposure the plate is developed out and the unhardened areas washed clean with water. The hardened albumen gives a very durable image and photo-litho plates generally stand longer machine runs than do transferred plates. The need for still more hardwearing plates led to the development of the deep etch process. Plates made by 'deep etch' are produced from a positive. The plate is coated with a slightly different coating, usually gum arabic or fish glue, and ammonium dichromate, and exposed to light under a positive. It is developed out and the non-image areas in the form of a negative on the plate are protected with an acid 'resist,' the plate being then etched with a corrosive solution which eats slightly into the plate. This slight intaglio is then inked in and finally the original fish glue coating is removed. This provides a sharp image, almost indestructible.

This search for better plates led to the invention of 'bi-metal' plates. This new development once again changed the principles of L. to some extent, involving the use of a metal which will accept ink or grease and another metal which will repel grease with the aid of very little water. Between 1933 and 1941 some twelve or more patents were taken out for sev. methods using various metals. The more popular, however, involve the use of chromium or stainless steel (grease-resistant) and copper (grease-attracting), some processes using two layers and some three. Two popular in England are the Aller process and Coates Bros. process. In the original Aller process the image areas are photographed on to a copper-plated stainless steel plate in a similar manner to that employed for deep etch. The actual image is then toughened and protected electrolytically. The ink-gate stencil is then removed, and finally the non-image areas are cleared of copper in an acid bath, leaving the copper image in very slight relief. In the Coates process a chromium-plated copper plate is coated and exposed to light as for deep etch, the chromium in the image areas is then etched away exposing copper and giving a slightly intaglio image. The principal advantages of bi-metal plates are the elimination of plate grain with corresponding improvement in sharpness of

detail and an almost indestructible printing plate which can be printed from at the highest possible speed. Ruins of sev. millions have failed to injure the image. Auto-L. brings the artist back into the place he originally occupied when he drew his work on stone; some artists still work on this medium, but most are working on zinc and aluminium plates. This revival of the fine art side of L. brings the work of famous artists into commercial L. and many beautiful posters have been done in this way recently. The latest method of working incorporates the use of various translucent plastics; these are grained and worked upon like plates or stones, they are then printed down by the photo-litho process onto machine plates for printing. Lithographic drawing ink is made from tallow, bees-wax, soap, shellac and lamp black, the soap permitting it to become water-soluble. Lithographic crayon is a similar mixture, the soap being reduced and the lamp black and shellac increased to permit handling without discomfort. Various grades of crayon are obtained by varying the amounts of the ingredients. Engraving on stone is now almost obsolete. The freshly polished stone is lightly coated with gum arabic, dried and rubbed in with lamp black. The image is then scratched into the surface and rubbed in with linseed oil. Impressions are taken by charging the line with ink, removing the surplus and pulling on an ordinary hand press. See A. Senefelder, *Complete Course of Lithography*, 1819; C. Harrap, *Text Book of Lithography*, 1909, and *Offset Printing from Stone and Plates*, 1927; Edgell and J. Pennell, *Lithography and Lithographers*, 1910; H. J. Rhodes, *The Art of Lithography*, 1921; B. Brown, *Lithography for Artists*, 1929; D. Cumming, *Handbook of Lithography*, 1932; A. S. Hatrick, *Lithography as a Fine Art*, 1932; N. Montagne, *Lithography*, 1933; R. Miksed, *Encyclopedia of Lithography*, 1938; G. Arnold, *Creative Lithography and How to do it*, 1941; J. S. Mertle and H. Kersch, *Photolithography and Offset Printing*, 1942; F. L. Griggs, *The Technique of Colour Printing by Lithography*, 1945; H. Whetton, 'Practical Printing and Binding', chapters XIV, xvi., *Lithography*, by A. Kirk, 1946. See also articles in the various trade journals.

Lithology, see **PETROLOGY**.

Lithophagidae (Lk., *Arctos*, stone; *phag*, to eat), family name formerly applied to some bivalve molluscs, but its component species are now divided among other families and the term is no longer used. The significance of the name is that the animals burrow in rocks and other hard objects.

Lithopone, pigment made of a mixture of barium sulphate (BaSO_4) and zinc sulphide (ZnS). It is useful as a substitute for white lead.

Lithosphere, see **under EARTH**.

Lithotomy (*lithos*, stone; *tomé*, cutting), cutting operation for removal of stone from the bladder. It is an operation of great antiquity, and in Great Britain is associated particularly with the name of

the famous surgeon lithotomist, Wm. Cheselden (1688-1752). Formerly the incision was made from the perineum, but this method is now superseded by the supra-pubic operation. The patient is placed upon his back and a hot boracic lotion is injected into the bladder, so that it rises above the region of the pubes, and the lotion is retained by plugging the end of the catheter. The incision is then made in the abdomen low enough to avoid the peritoneum, and the bladder wall opened. As the contained lotion rushes out the bladder wall is temporarily sutured to the surrounding muscular fibres, so that the opening is kept above the pelvis when the lotion is discharged. An examination of the size and position of the calculus is made with the fingers, and the removal is effected with forceps. The operation is now in many cases superseded by lithotripsy (*q.v.*), except in young boys, where the danger from L. is comparatively small, and where the urethra is too small to permit the passage of a lithotrite.

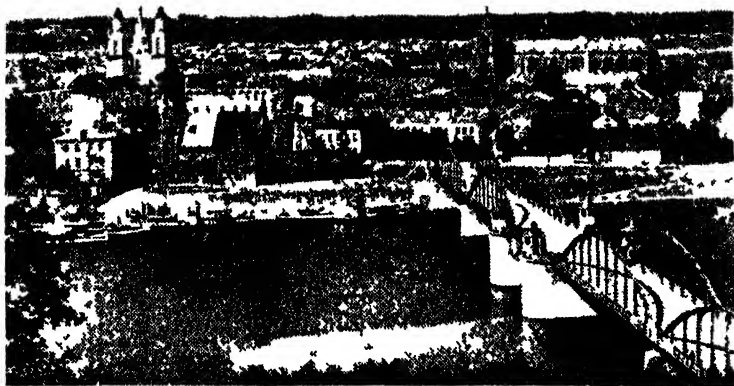
Lithotripsy (*lithos*, stone, *tribos*, I crush), operation for the removal of stones from the bladder by crushing. The method is now often called *litholapaxy*, to distinguish it from the older method, which was performed in two or more sittings. The modern operation is performed by means of a special instrument called a lithotrite, consisting of two blades which may be brought together by means of a screw. This is introduced into the bladder by way of the urethra, the stones are grasped one by one and crushed between the blades, care being taken not to rip the wall of the bladder. The crushed material is then withdrawn from the bladder by means of an 'aspirator,' a rubber ball filled with boracic lotion which discharges lotion into the bladder on being squeezed and withdraws it on being relaxed. A special trap is provided to catch the crushed stones as they are withdrawn.

Lithuania, constituent republic of the U.S.S.R., cap. Vilna (298,000), bounded by the Latvian S.S.R. on the N., Poland E. and S., and the former E. Prussia and the Baltic on the W. Its area is about 20,000 sq. m. L. became an independent duchy early in the thirteenth century, but was finally united to Poland in 1569. Gediminas was the earliest of L.'s notable rulers; he first made Vilna the cap. At the time of its greatest power, after its ruler Jagiello became king of Poland and Vytyld the Great (1392-1413), Gediminas's grandson, succeeded him, L. extended to the E. almost as far as Moscow and southward to the Black Sea. The Lithuanians were pagans up till 1397. After the union with Poland Rom. Catholicism was the prevalent form of religion, though in the former Memel Ter. Protestants largely predominated. From the date of its union with Poland the hist. of the two is the same (see **POLAND**). At the fall of the kingdom of Poland Russia took the provs. of Moghilev, Polotsk, Vilna, Troki, Novogrod-Syeversk, Brest, and Vitelsk, and constituted them 'the Lithuanian Gov.'; the

name of Lithuania in prov. was, however, generally used only for Vilna and Kovno which were described as such even in official documents in spite of the tsar's prohibition of the name in 1810. During the First World War L. was occupied by the Gers., but stoutly resisted Germanisation. Her right to self-determination was admitted by Russia at the treaty of Brest Litovsk (q.v.) 1918 and so on afterwards she proclaimed her independence which was recognised by Russia in the treaty of Peace 1920. The great powers recorded the new state recognition in 1922. The Memel L. was granted to L. in 1923 thus greatly extending her coastline and giving her a good port Klaipėda (Memel).

taken from Poland. In June 1940 the whole country was occupied by Soviet troops and the following month became a part of the U.S.S.R. During the German invasion of R. in 1941 the country was occupied by Nazi troops. It was reconquered by the Lithuanians in 1944 and was again incorporated as a republic of the U.S.S.R.

L. is flat all looking rising occasionally to low wooded hills. There is marsh land in some districts and owing to much glacial action the country contains over 2000 little lakes. The chief river is the Niemen (Memel) which is navigable below Kaunas for much of the year, above that it is only available for



LITHUANIA: KAUNAS AND THE RIVER NIEMEN

On the left is Trinity Church between the two bridges, and that the oval hall. The building on the right is the city hall.

Other important towns are Kaunas (Kovno) (152,400) the seat of the univ. founded in 1922, Siauliai (Shavili) (11,000) and Panevezys (Ponewicz) (26,500). In 1933 the German pop. of Memel spurred on by the Nazi Gov. in Germany intensified their agitation for separating Memel from L. and attaching it to the Reich, despite Hitler's declaration that he had no further territorial claims in Europe. Von Ribbentrop (q.v.) bluntly told the gov. of L. that if they wished to remain on good terms with Germany it would be advisable for them to surrender Memel. L. had no alternative and so gave up Memel in consideration of the usual meaningless pact of non-aggression and the empty promise of a free harbour in the port of Memel (March 1939). In Oct. L. shared the fate of the other two Baltic states, being brought under the virtual control of Russia and compelled to receive Russian garrisons at selected points, but, in exchange, L. obtained the long-coveted city of Vilna (Vilnius) which the Russians had

planning timber. The harbour at Klaipėda is blocked by ice for about a fortnight each winter. There are about 1000 m. of railway in L. and some 25,000 m. of roads. The winter in L. is long and severe, the summer short and very hot. Timber is the chief product but agriculture is important, rice, wheat, barley, oats, potatoes, peas, and flax being grown. Dairy and poultry farming have been developed. The fisheries are profitable. Since 1940 there has been much industrialisation in L.

The Lithuanians, a people of Aryan stock closely related to the neighbouring Latvians, arrived in Europe 2000-1000 B.C. The language is far the most archaic of spoken Aryan languages, and approaches Sanskrit more closely than any other European tongue. Between 1561 and 1905 its use was prohibited by Russia. Literature of the old L. lives only in songs, poems and legends, the earliest writer of note was a poet, Christian Donalčius (1714-80). Bishop A. Baranauškas, Baronas and Maltonis were poets.

of the latter part of the nineteenth century, when, owing to the Russian embargo on printing in L., the national literature was kept alive abroad, mostly in Poland and the U.S.A. It was during the First World War that W. Idens began to affect Lithuanian literature. There was a flood of trans. of foreign literature, and many eminent writers spent years in European countries, among them being Putinas and Binkis. Of modern writers the best are Jurgis Baltrušaitis (1873-1911), novelist; W. Vidūnas, scholar, poet, and dramatist; J. Tumas-Vaižgantas, essayist and novelist. The leading lyric poet of the nation in the twenties was still Maironis, and among his successors are Juozas Tysklevičius (b. 1906), Baltrušaitis, and Salomeja Neris (1905-45). L.'s greatest artist was M. K. Ciurlionis (1875-1911); A. Varnas is a great name in present-day Lithuanian art. L. has always been renowned for music, especially songs and dances. Area 31,600 sq. m. Pop. 2,879,100. See E. J. Harrison, *Lithuania*, 1925; E. C. Davies, *A History of Estonia, Latvia, and Lithuania*, 1937; B. Newman, *Baltic Background*, 1939; and F. W. Pick, *The Baltic Nations*, 1945.

Litmus, colouring matter, manufactured in Holland from the lichen *Lecanora tartarea*, and in S. Africa and Chile from *Rocella tinctoria*. It is prepared by fermenting the matter obtained from the lichen with potassium carbonate. It is sold in small blue tablets, which contain a good deal of calcium carbonate and sulphate as well as the pigment itself. It is largely used by chemists in testing, being turned blue by alkalis and red by acids. L. paper is made by impregnating an absorbent paper with L. solution. See INDICATOR.

Litoměřice, Ger. tn. and episcopal see on the r.b. of the Uhl. in Bohemia, Czechoslovakia, 36 m. N.W. of Prague. There are iron foundries, and malting, brick-making, and printing are carried on. The country round L. is called the Bohemian Paradise. Pop. 18,500.

Litre, or **Liter** (fr. *litre*, from Gk. *kyra*), measure of capacity in the metric system of France, being a cubic decimetre and equal to 61.022 cub. in. or 1.76 Eng. pints. It is used both as a dry and liquid measure.

Little Auk, see ROUGH.

Little Bear, The, see URSA MINOR.

Littleborough, tn. in Lancashire, England, 5 m. N.E. of Rochdale. It has manufs. of woollen and cotton goods, chiefly calico, and artificial silk, and there are collieries, iron mines, and stone quarries in the vicinity. Pop. 11,500.

Little Brethren, see FRATERNITY.

Little Egypt, country from which the wandering tribes of the gypsies asserted that they had been driven by the Turks when they first appeared in Europe in the fourteenth century. According to the historian Albert Krantz, these first appeared in Germany in 1417 an uncouth, dark-skinned, barbarous people, called by the Ita. 'Ciani', who alleged that they came from 'Little Egypt' and were on their way to Rome on a pilgrimage of

expiation for some sin of which the accounts differ. By 1500 they had reached England, for in 1505 James IV. of Scotland gave to 'Antonius Gargina, Count of Little Egypt,' letters of recommendation to the king of Denmark. Where they originally came from is still uncertain. Grellmann (1733) asserts that their speech is closely allied to some Indian tongue, and that they came from India, and various writers have upheld the theory that they are genuine descendants of the ant. Egyptians driven out of Egypt by the Saracens. The most generally accepted site of 'Little Egypt' however, is in the Peloponnesus, probably in Epirus. Mazaris, a Byzantine author, writing about 1116, mentions the 'Egyptians' as living in the Peloponnesus, and their own earliest story, that they had been driven out of 'Little Egypt' by the Turks, is supported by the adoption of the Turkish emperor, Achmet IV., in 1652 of the title 'King of Greater and Lesser Egypt' See also under GYPSIES.

Little Entente in Central Europe was the outcome of an alliance formed between the kingdom of the Serbs, Croats, and Slovenes (Yugoslavia), the Czechoslovak republic, and the kingdom of Rumania. The prime mover in the negotiations was the Czechoslovak foreign minister, Eduard Benes (q.v.), who concluded treaties with Yugoslavia and Rumania in Aug. 1920. These treaties were renewed and enlarged in 1922 and 1923. The prin. object of the L. E. was to prevent the restoration of the Hapsburgs to the throne of Hungary, and in this the alliance was effectual, since the three states were pledged to mutual military support in the event of Hungarian aggression against any one of them. As the political situation in S.E. Europe became less acute the members of the L. E. entered upon important relations with France and Italy, with a view to widening their relationships, though without imposing military obligations, rather than place themselves under obligations to any one great power. But the L. E. could not survive the aggression of the Nazi gov. of Germany. Czechoslovakia (q.v.) lost its independence to Germany (1938-1939). Yugoslavia was overrun and conquered (apart from protracted and eventually successful guerilla resistance) by Ger. and It. armies in 1941. Rumania fell under Ger. domination in the course of the Second World War and supplied armed forces to assist Germany against Russia. Even Slovak troops were incorporated in the Nazi armies. Thus the L. E. became an alliance of merely historical interest.

Little Falls: 1. City and co. seat of Morrison co., Minnesota, U.S.A., on both banks of the Mississippi, 88 m. N.W. of Minneapolis. Granite is quarried in the dist., and wheat and cattle farmed. L. F. has flour, pulp and paper mills, creameries, and hydro-electric power plant. Pop. 6000. 2. City of Herkimer co., New York, U.S.A., on the Mohawk R. 21 m. N.E. of Utica. Manufs. include bicycles, cotton, yarns, hosiery and knitted goods, paper, and leather. Dairying is carried

on in the dist. and milking machines are manufactured. Pop. 10,100.

Little Fenton, see *under* FENTON.

Little Fish Bay, see *under* MOSAMEDES.

Littlehampton, par., seaport, and watering-place, Sussex, England, at the mouth of the Arun R., 10 m. E.S.E. of Chichester. It has a safe harbour and is the trading port of Arundel. Its fine beach and golf links make it a favourite health resort. Pop. 14,900.

Little Hulton, see *under* HULTON.

Little Java (Malay Archipelago), see *under* BALL.

Little John, see *under* ROBIN HOOD.

Little Lever, see *under* LEVER.

Little Missouri, trib. of the Missouri R., U.S.A., rises in Crook co. in the N.E. of Wyoming, and flowing in a N. and N.E. direction through S.E. Montana, N.W. of S. Dakota, and N.E. of N. Dakota, to join the Missouri. Length 150 m.

Little Popo, dist. and tn. of Togoland, Fr. W. Africa. Chief tn., Anecho.

Little Rhody State, see *under* RHODE ISLAND.

Little Rock, city and cap. of Arkansas, U.S.A., and co. seat of Pulaski co., on the Arkansas R., 131 m. W.S.W. of Memphis, Tennessee. It is an important railway centre, and the most populous and important commercial and manufacturing city of the state. The chief industries are cotton and lumber works, cotton-seed oil and cake, foundries and machine shops. Natural gas is utilised. Pop. 88,000.

Little Russia, name formerly given to an area in S.W. Russia, now part of the Ukraine (q.v.). The Little Russian and Ukrainian language is a variant of Russian into Polish influences, and resembles the Ruthenian spoken in Poland and Czechoslovakia. See *under* RUTHENIA.

Little's Disease, see *under* BIRTH Palsy.

Little Solsbury Hill, between Swainswick and Bathaston, 2½ m. N.E. of Bath, 22½ ac. of flat hill-top (625 ft.) with the remains of an Early Iron Age camp. There are extensive views over the Avon valley, the city of Bath, and four cos. Presented in 1930 by Mrs. Hick through the Somerset Rural Community Council.

Littlestone-on-Sea (Kent), see *under* ROMNEY, New.

Littleton, Sir Thomas (c. 1107-81), Eng. judge and legal author. He became a judge on the N. circuit in 1155 and judge of the court of common pleas in 1166. His *Treatise on Tenures* was probably written after his last appointment, but was not pub. until after his death. It was addressed to his second son and was written in 'law Fr.' Its first ed. (probably 1481) was one of the earliest printed books, and it has since been repeatedly ed. and annotated, notably by Sir Edward Coke. See also *Paston Letters* (ed. by J. Gairdner, 1896), and W. S. Holdsworth, *Some Makers of English Law*, 1938.

Littre, Maximilien Paul Emile (1801-81), Fr. lexicographer and philosopher, b. in Paris. He fought on the barricades in the revolution of 1830. In 1835-36 he became a regular contributor to both the *National* and *Revue des deux mondes*. In 1839 appeared the first vol. of his trans. of Hippocrates, completed in 1862. At

this time he made the acquaintance of Comte, and adopted the positivist philosophy of his friend, popularising it in *Application de la philosophie positive au gouvernement* (1849); *Conservation, réputation, et positivisme* (1852); *Paroles de philosophie positive* (1859); and *Auguste Comte et la philosophie positive* (1863). His trans. include Pliny's *Natural History* (1848-50) and Strauss's *Vie de Jésus* (1839-40). He was also on the committee for the preparation of *Histoire littéraire de la France*. His great *Dictionnaire de la langue française* appeared in 1863-72, and *Histoire de la langue française* in 1862. In 1871 he was elected a member of the Académie Française. See G. Sainte-Beuve, *Notice sur Littre, sa vie, et ses travaux*, 1863; A. Poëy, *Littre et Auguste Comte*, 1879; and E. Caro, *Littre et le positivisme*, 1883.

Liturgy (Gk. λειτουργία), in its classical significance, denoted a service rendered by the individual to the state. In the N.T. we find it generally trans. by 'ministry,' as, for example, in Rom. xv. 16, where the word trans. 'minister' is λειτουργία. The word λειτουργία was early appropriated by Christians to designate the worship of the Church, and is now often used in a sense restricted to the Holy Eucharist, for which it is the usual name among the E. Orthodox churches, though in the W. it has fallen entirely out of popular usage. Here the holy sacrifice is commonly termed the Mass, though the anct. title is frequently used in liturgical treatises. It is possible that traces of a L. in the sense of a set form of eucharistic offering, is to be found in the books of the N.T. Many liturgical authorities have held it probable that some of the references to the celebration of the Lord's Supper in the Pauline writings are quotations from an early L. During the first centuries the sacred rites were celebrated with the greatest secrecy, and references to the manner of their celebration are therefore rare. An outline is given by Justin Martyr in his *Defence of Christianity* (Chaps. LXV., LXVI.), but a clearer idea of the form of the rite is given in the eighth book of the *Apostolic Constitutions* (q.v.). It bears a much closer affinity to the E. rites than to the later W. ones. Liturgists distinguish four great 'parent' Ls.: of Antioch, Alexandria, Rome, and Gaul, from which all later ones are derived. The first three were estab. in the great patriarchal cities and survive under many forms in E. and W. The Rom. L. are distinguished by the position of part of the great intercession being between the Sanctus and Consecration; also by the position of the Pax after the Consecration. Varieties of the Rom. use, differing but slightly from the modern Rom., are to be seen in the various local uses of the Middle Ages, such as the Eng. Sarum use (q.v.), on a trans. of which the present Anglican rite is founded. The Gallican rites were rather a family of different kindred Ls. in use in the W. than a single source. It is mainly represented to-day by the L. at Milan, and in another variety known as the Mozarabic in part, of

Toledo. Otherwise the Gallican Ls. have disappeared, though they considerably modified the original Rom. rite before doing so. The Gallican rite is of disputed origin. Duchesne attributes it to the Cappadocian bishop Auxentius of Milan (355-74); Schuster and others classify it as an extreme variation of the Rom. rite. Liturgical research has made great strides of recent years, and a large amount of literature is available on the subject. Numerous texts have been pub. by the Henry Bradshaw Society. See Martine, *De Antiquis Ritibus Ecclesiae*, 1700, 1736, and F. E. Brigham, *Liturgies Eastern and Western*, 1896; also Warren, *Liturgy of the Ante-Nicene Church*, 1897. L. Duchesne, *Origins du culte chrétien* (Eng. trans. of 3rd ed.), 1901; I. Schuster, *The Sacramentary*, trans. into Eng. 1924; *Dictionnaire d'architecture et de liturgie chrétienne*, a series of Christian Ls. pub. by Cope & Fenwick, 1908, etc.; P. Du-mont, *Eglises orientales unies et dissidentes*, 1933; A. Jungmann, *Verordene Liturgie*, 1941; J. Norman, *Handbook to the Christian Liturgy* (S.P.C.K.), 1944; and J. H. Crawley, *Early History of the Liturgy*, 1947.

Litvinov, Maxim (b. 1876). Russian statesman, b. at Bialystok of Jewish parentage (real name Finkelstein or Wallach). He joined the Communist party in Russia and worked for it in London, where he had a job first in the furniture trade and later as a journalist. He played a prominent part in the Russian revolutionary movement before the First World War. After the Russian Revolution he was made London representative of the Soviet, but later was forced to leave London, and he became Soviet representative in Stockholm. He was made commissar for foreign affairs in 1930 and frequently represented the U.S.S.R. at international conferences and, after 1934, at the League of Nations, where he led the movement for disarmament. L. played a decisive part in concluding the Franco-Soviet Pact of 1935. In May 1939, when Stalin and Hitler were negotiating their non-aggression pact, L. resigned on account of his known sympathies and collaboration with the democracies and was succeeded by Molotov. In Nov. 1941, some five months after the beginning of the Ger. invasion of Russia, he was appointed Soviet ambas. to the U.S.A. In 1943 he was replaced in Washington by A. Gromyko, and, until dismissed in 1946, was deputy commissar for foreign affairs.

Liu-Choun-Koon, see POET ARTHUR.

Liu-Kiu, see RYUKYU ISLANDS.

Liutprand, or **Liudprand** (c. 922-972), It. chronicler and bishop of Cremona. He became chancellor of King Berengar, and was sent on an embassy to Constantinople in 950. Falling into disgrace with Berengar he joined Otto I. of Germany, and accompanied him in his invasion of Italy. He was frequently employed in embassies, and his description of the one to Constantinople in 968, *Relatio de Legatione Constantinopolitana*, is one of the best satires of the tenth century. His *Antapodosis*, a hist. of the period from 887

to 949, was designed as a revenge upon Berengar. His *Historia Ottonis* (960-961) is of considerable historical value. All are to be found in *Monumenta Germaniae Historica*. See R. Kopke, *De Vita Liudprandi*, 1842; G. Baldeschi, *Liudprando*, 1889; and study by M. Lintzel, 1933.

Livadia, township on the S. coast in the Crimean Region of the R.S.F.S.R., 3 m. S.W. of Yalta. It had two palaces, and was a favourite resort of the Tsar Alexander II. It was the scene of the Yalta Conference (q.v.) in 1945.

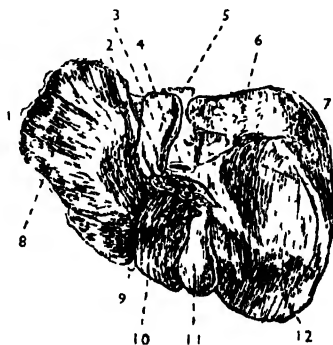
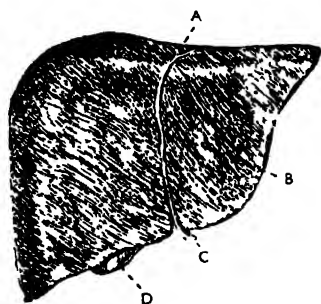
Livinge, George Downing (1827-1918), Eng. chemist and spectroscopist, b. at Nayland, Suffolk. He was appointed lecturer on natural science at St. John's College, Cambridge, in 1853; prof. of chem. at the Royal Military College, Sandhurst, in 1860; and prof. of chem., Cambridge, from 1861 to 1908. Among his publs. are *Essays on the Transmutation of Matter* (1855); *Chemical Equilibrium* (1885); *Ultra-Violet Spectra of the Elements* (1855-1888), in conjunction with Sir James Dewar; and, with H. Warren, *Report on the University College* (1897), besides many papers on spectroscopy, crystallisation, etc.

Liver, largest gland in the body. It is situated on the right-hand side of the abdominal cavity, immediately under the diaphragm, and in front of and to the right of the stomach. Its anterior surface is convex, and lies close to the wall of the abdomen. Its posterior surface is lightly concave and accommodates itself to the shape of the organs with which it is in contact. On the right the upper and posterior surface is in contact with the diaphragm; below this is a deep depression fitting the surface of the right kidney, and the lower part fits round the intestinal portion of the stomach. The vena cava passes through a deep groove in the posterior median part of the L., and on the left, in the middle line of the body, a depression marks the passage of the oesophagus. The greatest thickness is on the right side, and from there the L. tapers down in front and below to a sharp edge. The colour of the L. is reddish brown, and its weight is in the neighbourhood of 3 or 4 lb. The L. consists of five lobes: the right, the left, the spigelian lobe, the quadrate lobe, and the caudate lobe. The lobes are made up of a large number of lobules, conical in form. Each lobule is covered with connective tissue and contains hepatic cells, capillaries, arteries, veins, lymphatics, and biliary channels. The blood is brought from the digestive tract, and the spleen to the L. by the portal vein, from which intralobular veins branch out to lead around the lobules, while the cells are fed by intralobular capillaries from the intralobular veins. The intralobular capillaries are received by a central vein in the core of the lobule, which leads to a sublobular vein, and ultimately into the vena cava. The L. secretes bile, which is conveyed either directly or by way of the gall-bladder to the common bile duct which leads to the second part of the duodenum.

The functions of the L., once thought

to be simple, are now known to be very complex. Much of its work consists in the secretion of bile. This is a golden-brown liquid secreted by the hepatic cells, and is probably mostly of the nature of an excretion, its functions in the digestive processes having been formerly overestimated. It contains two pigments, bilirubin and biliverdin, which are produced by the decomposition of hæmoglobin. It also contains organic salts, the chief of which are sodium taurocholate and sodium glycocholate, as well as mucus, cholesterol, lecithin, and fats. Some of these substances are reabsorbed in the intestines and aid in the absorption of other food material. They probably also

the L. aids in the supply of hæmoglobin. The excretion of effete and broken-down red corpuscles is undoubtedly one of the functions of the L. Whether the destruction of the corpuscles takes place in the L. is not known, but the waste products go to form the pigments of the biliary secretion, and are thus excreted. Still another function of the L. is the disposal of waste or excessive proteid matter. The proteins are broken up in the stomach into peptones; these are converted into amino-acids by the pancreatic juice, and are carried off by the blood stream to build up the tissues. Many of the amino-acids are, however, of little or no nutritive value, and these are con-



LIVER

Left, from the front A, bare area; B, falciform ligament; C, umbilical vein; D, round ligament.
Right, inferior surface 1, left lobe; 2, portal vein; 3, Spigelian lobe; 4, hepatic artery; 5, vena cava inferior; 6, peritoneal surface; 7, right lobe; 8, gastric surface; 9, round ligament; 10, quadrate lobe; 11, gall bladder; 12, impression for colon; 13, renal impression.

serve as a natural antiseptic for the intestines. Another important function of the L. is the production and storage of glycogen, or animal starch. Carbohydrates are converted by digestive action in the intestines into the sugar glucose, which is finally used up, particularly in muscular tissues, for the production of muscular energy. The muscles are capable of storing up a certain amount of glucose, but this is not sufficient to keep the body active for any length of time. The L. however, acts as a storehouse for sugar. As digestion proceeds the glucose is taken up by the L., converted into glycogen and reconverted into glucose gradually, according to the needs of the system. A disturbance of this function of the L. is, therefore, bound to be accompanied by a lack of enduring power in the muscles. Another function of the L. is the regulation of the number of red corpuscles in the blood. The production of hæmoglobin, the red colouring matter of the blood, is ordinarily a function of bone-marrow, but in the fetal stage there is little doubt that

verted by the L. into urea, which is then carried to the kidneys, and finally excreted in the urine.

With its multiplicity of function the L. is especially liable to derangement, either temporary or more permanent. Sheer overwork of the L. is undoubtedly the cause of many bodily ailments, and the obvious cure is a period of rest. The beneficial effects of a spare and plain diet are due, to a great extent, to a relaxation of the strain upon the L. The accumulated poisons may then be quickly eliminated from the body, and healthy conditions are likely to continue until self-indulgence again presents the L. with more work than it can efficiently perform. Prolonged irritation of the L. leads to an increased supply of blood and the development of new fibrous tissue within the organ. This leads to a condition known as cirrhosis of the L. The organ is at first enlarged, but afterwards becomes hardened and reduced in size. Cirrhosis is often the result of spirit drinking, and although it may not be accompanied by

painful symptoms, subsequent degeneration of its structure is likely. The blood is not able to pass through quickly enough, and in consequence serum may be exuded from the portal vein into the peritoneal cavity, forming what is known as ascites, or dropsy of the abdomen. Hepatitis, or inflammation of the L., is often the result of infection from some other diseased organ. The symptoms are pain and jaundice. Treatment involves rest, aperients, and fomentations to relieve pain. Jaundice is a symptom consisting of discoloration of the skin and excretions due to the presence of bile-pigments in the L.; it is a natural consequence of a derangement of the biliary functions of the L. Yellow atrophy of the L. is a rare disease characterised by intense jaundice and severe nervous symptoms. The L. is invariably much reduced in size; no treatment is of any avail. Gall-stones are concretions formed in the gall-bladder or bile-ducts. They give rise to painful symptoms, and may cause an obstruction in the bile-duct, with the possibility of ulceration and perforation of the duct. The stones should be removed by operation.

Liver Fluke, Liver Rot, Distomiasis, Fascioliasis, or Dropsy of the Liver, parasitic disease most common in sheep, but occurring also in goats, cattle, dogs, horses, and even man. The fluke (*Distomum hepaticum*) belongs to the order Trematoda, or flat suctorial worms. The disease is commonest after a wet summer on badly drained ground, as there must be standing water during the warmer weather for the eggs of the fluke to hatch in. The prin. intermediate host is *Limnaea truncatula*, a small water-snail; hares, rabbits, and deer are also carriers and hosts of fluke. Draining the land thoroughly both improves the herbage and prevents the fluke completing its several stages. Dressings of salt or lime destroy the embryos and the cysts when attached to the grass and also the snails. Liver rot does not occur on salt marshes. Salt may also be given in the animal's food. Symptoms of the disease are a yellowish tinge in the eye, diarrhoea, thirst, and great weakness, while the animals become 'pot-bellied,' or dropical. A dose of 15 grains of ethereal extract of male shield fern for each 11 lb. of the animal's weight is a remedy for this disease, but affected animals should be fattened on healthy pasture, and slaughtered as soon as possible.

Liver of Sulphur is formed by fusing sulphur with potassium carbonate, the substance being dark brown and unstable. Acids readily decompose it, liberating sulphuretted hydrogen; this occurs when exposed to air, owing to the action of carbonic acid. This has led to its being used internally as a medicine, though it is chiefly used externally in ointment for skin affections. Chemically it consists mainly of sulphides of potassium.

Liverpool, Charles Jenkinson, first Earl of (1729-1809), Eng. statesman, b. at Winchester. He became M.P. for Cockermouth (1761), and under-secretary of state, and led the 'king's friends' party

after Batos's retirement; he filled numerous high offices of state in the Grenville, Grafton, North, and Pitt ministries. He was created Baron Hawkesbury (1786) and earl of L. (1796). Of his numerous writings his *Treatise on the Coins of the Realm* (1805, reprinted 1880) is of value. See Ninetta Jucker (ed.), *The Jenkinson Papers*, 1760-66, 1949.

Liverpool, Earl of, see JENKINSON. ROBERT BANKS.

Liverpool, municipal city, parli. bor., and seaport, in the co. palatine of Lancashire, England. It lies on the slope of the r. b. of the Mersey, the open sea being some 3 m. from the centre of the city. The original bor., which was devastated by the plague in the sixteenth and seventeenth centuries, has long since disappeared, and the present city, with its fine streets and buildings, is as healthy as good natural drainage and sanitary reforms can make it. L. is to-day one of the largest trading centres in the world. Originally its dealings were mainly with Ireland, but the opening up of trade with the W. Indies and N. America, coupled with the development of the cotton industry in Lancashire, gave an impetus to its trade, which has continued to increase steadily since the time of the Restoration. One of L.'s prin. trades is with N. and S. America, to which lines of steamers run, besides those to the Canadian ports. In recent years trade with Australia, New Zealand, and S. and W. Africa has developed considerably. The chief imports are grain, cotton, cattle, provisions, and tobacco, sugar, timber, and fruit. The manufactured goods of Lancashire and Yorkshire form the prin. exports, but wool and salt are also important exports. L. ranks second to Manchester as a flour-milling centre; it has also extensive engineering works, sugar-refineries, and cattle-food and seed-crushing mills. Printing on pottery was invented by a L. merchant, John Sadler, and all the early Wedgwood goods were printed at L. Lever watches were also invented in the city by a manufacturer named Litherland. The prin. feature of L. and the main source of her prosperity is, of course, the docks, and some idea of the increase in her trade may be gained by the following figures: In 1800 the tonnage of ships entering the port was 450,969; in 1910 it was 16,651,071, and during 1938 the tonnage of vessels that arrived and departed with cargoes and in ballast was respectively 17,628,000 and 17,818,000. The volume of traffic passing through the port annually during the Second World War was 11,500,000 tons, exclusive of coastwise traffic.

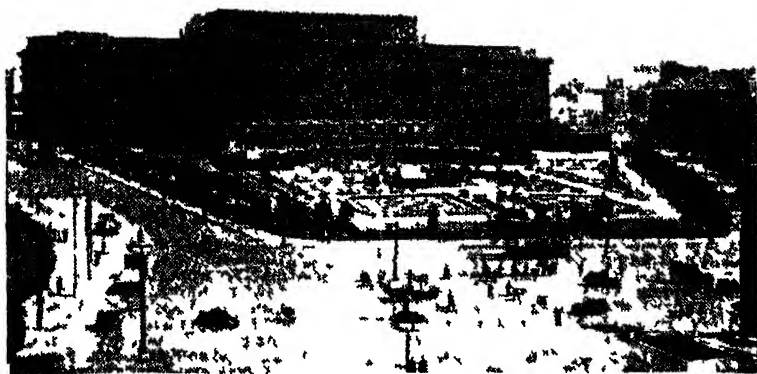
The docks are owned by the Mersey Docks and Harbour Board, and lie on both sides of the Mersey. The corporation started the enclosed docks system in 1709, Thomas Steers being the engineer, but in 1857 the Mersey Docks and Harbour Board took over the management. This board comprises twenty-eight members, twenty-four of whom are elected by the ratepayers on ships and goods. It was not until 1843 that the docks were extended to the Cheshire side of the riv. at

Birkenhead, and twelve years later before they came into the possession of L. L. now possesses eighty-seven docks and basins with accommodation for vessels of every size, there is a water area of about 660 ac. and a lineal quayage of 38 m. The Birkenhead docks have about 10 m. of quayage; they are principally concerned with trade to the Far East and with ship building and repairing. Besides the wet docks there are eighteen graving docks at L. which possesses also the largest floating landing stage in the world and the most powerful floating crane in the United Kingdom. Originally (1847) the landing stage was only 300 ft. long and there was

array of warehouses supplies accommodation for a variety of goods.

The city is rich in fine parks and public gardens, the largest being Sefton Park (269 ac.) which was opened in 1872, though Prince's Park was laid out in 1843. Many other parks have since been made. Waverley Park having botanic gardens.

Buildings—L. contains many fine buildings, though they are all more or less modern. Of these St. George's Hall (1854) is one of the finest. The town hall in Castle Street was designed by Wood of Bath in 1794 and is notable for the grace of its interior. The municipal offices, in the Italian style, were built in 1860,



ST. GEORGE'S HALL, LIVERPOOL

Liverpool Corporation

a space between it and the Prince's stage (1000 ft.) in 1871 it was rebuilt but destroyed by fire and the present stage was constructed in 1896. It is now half an mile in length. It rests on floating pontoons and ten bridges join it to the river wall in addition to an inclined roadway for vehicles. The North Prince's stage is used by Atlantic and other liners, the St. George's stage by the ferry boats which by a continuous service connect L. with the Cheshire bank of the Mersey. The introduction of the latest aids to navigation has made the port one of the first in the world to utilise radar on a full-scale basis for the purpose of assisting in the pilotage of ships in and out of the port. A new deep water entrance to the Waterloo dock has been constructed to enable coastal shipping to use it at any time of day or night, abolishing delays caused by tides. Extensive dredging operations have been carried on to enable the largest vessels to come up the river, and a great

and the exchange and revenue buildings should be mentioned. The cathedral was commenced in 1904, the foundation stone being laid by Edward VII. and the foundation stone of the chapter house two years later by the duke of Connaught. The designs are by Sir Giles Gilbert Scott, and when finished it will be the largest cathedral in the country (see further under LIVERPOOL CATHEDRAL). A Roman Catholic cathedral is being erected on Mt. Pleasant to the designs of Sir Edwin Lutyens. When completed this will be the largest church in the world after St. Peter's at Rome. The Dock Board offices, the Liver Buildings, and the Cunard Line headquarters are other notable buildings.

Communications, Lighting, and Water Supply—L. is possessed of three terminal passenger stations, the Midland Region (two) and W. Region lines serving the city while the Mersey railway tunnel (1886) connects it with the railways on the

Cheshire side of the riv. The Mersey traffic tunnel is the longest under-water highway in the world. It took eight years to construct, and was opened by George V. in 1934. The total cost was £7,250,000; in 1946 over 1,000,000 vehicles passed through the tunnel. There is also an overhead electric railway (the first of its kind) running along the docks from Seaforth to Dingle on the S., and to Litherland on the N. (total length 6½ m.), and an extensive system of electric tramways run by the corporation. There is a fine municipal airport at Speke, approximately 8 m. S. of the city centre. The city is lighted by electricity, and the water supply is excellent, being obtained from reservoirs at Rimington (Lancashire) and Llake Vyrnwy (N. Wales); the latter opened by the Prince of Wales (afterwards George V.) in 1910.

Municipality.—The city is divided into forty wards, it possesses a lord mayor (1893), thirty-nine aldermen, and 119 councillors, and returns nine members to Parliament. Since 1309, when Thomas, earl of Lancaster, made a grant, the corporation have owned a good deal of property bringing in a considerable income, and in olden times the fee farm rents and tithes, purchased from the Molyneux family in 1672, and later converted into a perpetuity, were an additional source of income; but in 1856 an Act of Parliament transferred these to the Mersey Docks and Harbour Board for the sum of £1,500,000. Quarter sessions are held eight times a year, and the court of passage sits five times a year; this latter dates back to the time of King John, and deals with cases relating to the imports and exports of the city. Since the end of the First World War L. has become widely known for the size and high standard of its municipal housing projects. By 1947 the corporation owned 43,000 houses and flats. A twenty-two-year plan has been approved which should provide a further 90,000 houses by 1967.

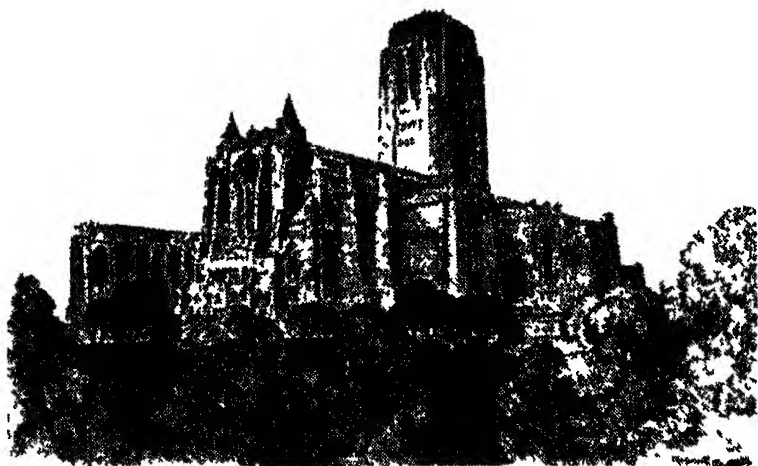
Churches, Libraries, Museums, Schools, etc.—L. originally belonged to the diocese of Chester, but in 1880 this was divided, and L. was made a separate see, Dr. J. C. Ryle being the first bishop, while the old par. church of St. Peter became the pro-cathedral. It is also a Roman Catholic archiepiscopal see. The city supports sev. charitable institutions, of which the oldest is the Blue Coat Hospital for Orphans, founded 1708. The free library, which contains a very fine collection of books, was built by Sir Wm. Brown in 1860; adjoining it is the Walker Art Gallery, built by Sir Andrew Walker in 1877, and enlarged by him in 1884. It contains a beautiful collection of paintings, including the Roscoe collection of some 180 early It. paintings made by Wm. Roscoe in the early part of the nineteenth century, and presented to the gallery in 1894. He also helped to found the Royal Institution (1817). An exhibition of modern art is held annually. The museums possess a fine collection of stuffed animals collected by the 13th earl of Derby, and presented by his son and

the Mayer collection of historical antiquities presented by Mr. Joseph Mayer, F.R.S.A. The univ. (q.v.) was formerly Univ. College and part of the Victoria Univ. of Manchester. The medical school originally belonged to the Royal Infirmary, and includes a school of tropical medicine; there is also a veterinary school. L. possesses a fine collection of vols. in the Tate Library, and also interesting museums. Following on the old church schools and an anc. grammar school, the first elementary schools were estab. in L. in 1826, board schools appearing in 1870. Other schools founded by the city were the L. Institute (1825), comprising a high school and commercial school, and the L. College (1840). The former became a public secondary school in 1905, as did also the Blackburn House High School for Girls. The Merchant Taylors' School for Girls at Great Crosby was opened in 1888. St. Edward's (originally the Catholic Institute) and St. Francis Xavier's, taught by the Irish Christian Brothers and the Jesuits respectively, provide secondary education for the sons of the large Rom. Catholic pop. of the city and dist.; while the Mount Pleasant Convent training school and univ. hostel (Notre Dame) is the best known of Rom. Catholic educational institutions for girls.

History.—L. is first mentioned historically in a deed executed by King John, then earl of Mortain, in 1191. The name, no doubt, came from the early Norse inhab. and was *lithbar-pollr*, 'the pool of the slopes.' King John bought it and founded a bor. in 1207, and throughout the thirteenth century we find L. used for shipping troops and stores to Ireland and Wales. Charters were granted to the city by most of the monarchs from Henry III. to William and Mary, and in 1880 a royal charter converted the bor. into a city. L. remained the property of the Crown until 1628, when it was sold with other manors by Charles I. to some London merchants, and they in turn sold it to Viscount Molyneux of Maryborough (for £450), in whose family it remained until 1672, when it was acquired by the corporation. The Wars of the Roses considerably affected the prosperity of the city, and during the Civil war it was fortified and held by the Parliament, being taken by Prince Rupert in 1644. From 1709 until 1807 L. was actively engaged in the slave trade; privateering also flourished. During the Second World War L. became the headquarters of W. approaches where the battle of the Atlantic was organised. L. became the chief port for munitions and men from overseas, and over 4,700,000 men passed through. Not unnaturally this activity attracted heavy and sustained air attack, and many warehouses and about half the central shopping area were completely devastated; 120,000 houses were damaged, and in one week, in May 1941, 1453 people were killed and 1065 seriously injured. Sev. of the city's churches were destroyed, including St. Catherine's, Abercromby Square; St. Luke's, Bond Street; and St.

Michael's, Pitt Street Church House, headquarters of most diocesan organisations, suffered damage. Bluecoat Chambers where many cultural societies have their home were severely damaged but only minor damage was done to the Unity Buildings. India Buildings and the Corn Exchange were also damaged and the arcade in Cook Street was gutted. The area exclusive of water area is 43 sq mi, and the pop was estimated at 736 000 in 1941. See D. Doughton *History of Liverpool* 1810 J. A. Picton *Memorials of Liverpool* (2 vols.) 1873 Ramsay Muir *A History of Liverpool* 1907 J. Tourneau *The Rise and Progress of Liverpool from*

1921. A single section of the cathedral took fifteen years to build which affords some indication of the magnitude of the task. The tower arch is the largest Gothic arch ever constructed. The under tower and the crossings of the two transepts together form the central space, a rectangular area 136 ft long by 87 ft wide unobstructed by piers or columns and capable of seating a congregation of seventy thousands. The area of the central space, 11 000 sq ft is half as much again as that under the dome of St Paul's (the similar feature of St Peter's Rome is not quite 15 000 sq ft). The under tower the dominating feature of the interior as is



Liverpool Cathedral. L. Dundas

LIVERPOOL CATHEDRAL

A view of the cathedral from the east.

1901 to 1910. D. C. Jones *Survey of Merseyside* vol. 1 1934. J. J. Thompson *Merseyside Place* 1941. J. J. Allison *The Mersey Estuary* 1941. A handbook pub. by the corporation.

Liverpool 1. The seaport and city of Queen's Co., Nova Scotia (Canada) on the R. Mersey 65 mi S.W. of Halifax. It is the centre of a large fishing industry and shipbuilding trade. Lumbering is a tradition and some gold is mined in the neighbourhood. Pulp paper, and iron castings are manufactured. Pop. 3000. 2. In New S. Wales, Australia, on George's R. 20 mi W. of Sydney. It is on the site of an early settlement in the midst of fine agricultural country, and manufactures pop. 7100.

Liverpool Cathedral was commenced in 1904 to the designs of Sir Giles Gilbert Scott red sandstone being used, with roofs of copper. The Lady Chapel was completed and consecrated in 1910. The choir and E. transept were consecrated in

the tower itself of the exterior is lit on the N. and S. sides by groups of windows 14 ft high each filled with stained glass which may well challenge comparison with the finest work of the medieval glass painters. The under tower vault is 176 ft high or 60 ft higher than the choir vault and 71 ft higher than the nave of Westminster Abbey. The cathedral was the target of German bombers in 1941 and narrowly escaped serious damage. The red sandstone walls of the cathedral were pitted in thousands of places. A large bomb fell on the S. transept roof, which it pierced, but instead of being deflected inwards after striking the supporting inner brick wall, it was deflected outwards and exploded in the air high above the street level, but the tall transept windows were broken by the blast.

'**Liverpool Daily Post and Mercury**' dated from 1855 being one of the papers that appeared as a result of the repeal of the stamp duty. The *Post* was always

strongly Liberal in politics, and espoused the cause of the N. in the Amer. civil war. It was one of the first newspapers to adopt the use of maps and diagrams. In 1901 the *Post* absorbed a fellow Liberal jour., the *L. M.*, founded in 1811 and pub. as a daily paper since 1858. The companion evening paper is the *L. Echo*, a paper of independent views. The *L. Weekly Post* was estab. in 1878.

Liverpool Plains, picturesque and pastoral dist. from 800 to 1000 ft. above sea level in the N.E. of New S. Wales, Australia. It is divided from the Warrego dist. by the Darling R. The chief tn. is Tamworth.

Liverpool Range lies between the co. of Brisbane and the Liverpool Plain in New S. Wales, Australia, and forms part of the Great Dividing Chain; highest point, Oxley's Peak, 4500 ft.

Liverpool Regiment, see KING'S REGIMENT (LIVERPOOL).

Liverpool University. The Univ. College, Liverpool, Lancashire, was constituted by royal charter dated Oct. 18, 1881, and was affiliated to the Victoria Univ., Manchester, in 1884. Royal assent was given on Aug. 14, 1903, to an Act separating it from Victoria Univ. and constituting it as an entirely separate univ. The king acts in the capacity of visitor and the earl of Derby as chancellor. The faculties include those of arts, engineering, law, medicine, and science, with more than seventy chairs, most of which are well endowed. There are special schools of architecture, dental surgery, hygiene, local hist., and record, Russian studies, social science, social sciences and administration, tropical medicine (with research laboratories at Mafao and Sierra Leone), and veterinary science. The univ. ranks next after Oxford and Cambridge, London, and Manchester. The buildings are centralised and extensive, and the students are united in a self-governing guild of undergraduates. Many scholarships, student-ships, and exhibitions are awarded.

Liversedge, par. and tn. in the W. Riding of Yorkshire, England, 3 m. N.W. of Dewsbury. The reservoir of the Bradford water supply is at L. It has manufs. of cotton, woollen, and worsted goods, iron goods, machinery, and chemicals. Pop. 15,000.

Livery (from late Lat. *liberare*). In the special sense of distributing originally meant the provision of food, clothing, etc., for the servants of a household. From this the term came to be applied to a special uniform worn by the servants of great households, and really includes the uniforms of naval, military, and civil officials as servants of the State. In the fifteenth century the partisans of the great barons adopted their badges as 'liveries' as a pledge to support them in return for their promise of 'maintenance'; this custom of 'livery and maintenance' was suppressed by Henry VII. The term has been applied to an association wearing a distinctive garb, as in the livery companies of London. See also UNDER COMPANIES, CITY, LONDON; FEOFFMENT.

Livery of Seisin, see FEOFFMENT.

Livestock, see under AGRICULTURE; CATTLE; FARM, HORSE; PIG; SHEEP.

Livia Drusilla (c. 55 B.C.-A.D. 29), Rom. empress. She was originally the wife of Tiberius Claudius Nero, by whom she had two sons, Drusus and Tiberius. In 38 B.C. Augustus compelled her husband to divorce her in order that he might marry her himself. She exercised great influence over Augustus, and was suspected of various crimes to secure the throne for her son Tiberius, whom she persuaded Augustus to adopt formally in A.D. 4. At the accession of Tiberius she acted as joint ruler with him, and after his retirement to Capree (Capri) continued to rule in Rome until her death. See Tacitus, *Annals*, i. v., and S. Baum Gould, *Tragedy of the Caesars*, 1892.

Living Force, see ENERGY.

Living-space, see LEBENS-Raum.

Livingston, famous Amer. family founded by Robert (1651-1728) who was b. at Anstruth, Scotland, and emigrating to America about 1673 received grants to 'L. Manor' on the Hudson. His grandson, Wm. L. (1723-90), became a political leader on the side of the Dis-senters. He served in the New York legislature (1759-60), but his influence was chiefly exerted in the columns of the *Independent Reflector* (1752-53) and the *New York Mercury* (1754-55). Wm.'s brother Peter van Brugh L. (1710-92) was a prominent merchant and a political leader on the Whig side in New York, and another brother Philip L. (1716-79), a signer of the Declaration of Independence, was also a leader of the same party. Wm. L.'s son, Brookholst L. (1757-1823), was an officer in the Amer. War of Independence and a political pamphleteer under the name of 'Deems'.

Livingston, Edward (1764-1836). Amer. jurist and statesman, b. in Germantown, Columbia co., New York, the younger son of Judge Robert R. L. the elder (1718-75), and great-grandson of Robert L., the founder of the L. family (see LIVINGSTON). He was Republican representative in Congress (1795-1801); U.S. dist. attorney for New York state, and mayor of New York city in 1801. In 1803 he removed to Louisiana and built up a great law practice at New Orleans. In 1820 he became a member of the legislature of Louisiana, and drew up the L. code of criminal law. He was again a member of Congress from 1823 to 1829, a senator from 1829 to 1831, and secretary of state under President Jackson, 1831-33. In 1833 he was appointed ambas. to France. See his *Criminal Jurisprudence* (1873) and C. H. Hunt, *Life of E. Livingston*, 1861.

Livingston, Robert R. (1746-1813). Amer. jurist and statesman, b. at New York, brother of Edward L. He was called to the bar in 1773, and was recorder of New York from 1773 to 1775. He was a member of Congress, and also of the committee which drew up the Declaration of Independence, as well as of the committee which drew up the first constitution of the state of New York.

of which he was the first chancellor (1777-1801). At the same time he was secretary for foreign affairs (1781-83) and president of the New York Convention (1788). From 1801 to 1804 he was ambassador to France and negotiated the Louisiana purchase (1803). He was an ardent agriculturalist introducing the use of gypsum as a fertilizer and in conjunction with Robert Fulton did much to further experiments with steam navigation. See I. de Peyster, *Biographical Sketch* 1876.

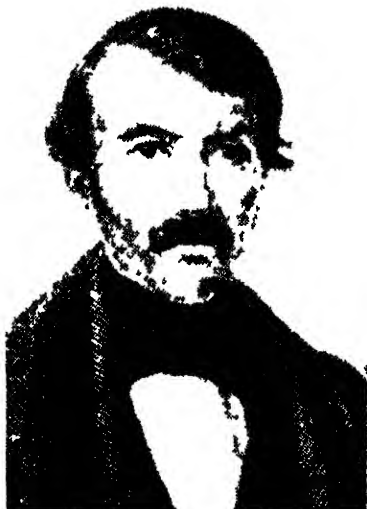
Livingstone, city and co. seat of Park co. Montana U.S.A., on the Yellowstone R. 100 m. S.E. of Helena. It lies at an altitude of 4495 ft. and is within easy reach of the Yellowstone Park region. It has coal, oil wells, and is mining in districts, lumber mills, lime works, machine shops, and flour mills. It has hot springs and has become a health resort. Pop. 6600.

Livingstone, David (1813-73) Scottish missionary and explorer in Africa. / at Blantyre, Lanarkshire, Scotland. At the age of ten he was working in a cotton factory at Blantyre. When he was twenty-three he entered on a course of study at Anderson's College, Glasgow, and later determined to become a missionary. With this aim in view he studied medicine and in 1838 he offered himself to the London Missionary Society, attracted by their unsectarian character and was accepted by them, and in Nov. 1840 he took his medical degree in the faculty of physicians and surgeons in Glasgow. His ambition had been to go to China, but a Great Britain war then at war with that country this was impossible and the field selected for him was Africa. He left England in Dec. 1840, arrived at Cape Town early in 1841 and went straight to Bechuanaland to the mission station established at Kuruman by Robert Moffat whose daughter Mary he married in 1843. In 1849, in company with the great hunter Oswell and Mr. Murray he discovered Lake Ngami. In the following year with his wife and children he made a journey to the Upper Zambesi, but owing to their illness he decided to send them home to England and so they worked their way back to Cape Town, which they reached in April 1851.

Returning to Livingstone the chief of the Makololo he determined to open up a route into the interior and ascending the Liba he reached Lake Dilolo, Feb. 1854, from there he went across the Kwanao and arrived at Loanda on May 31, half dead from fever and starvation. Having sent home particulars of his wonderful journey he returned to Livingstone arriving there in Sept. 1855. Realising that the W. route was of no use for his purpose he next set off to follow the Zambesi to its mouth and a fortnight after leaving Livingstone he discovered the famous Victoria Falls. Continuing his journey he reached Tete, March 1856, and then proceeded to Quilimane, where he arrived in May. In Dec. of the same year he returned to England, having accomplished one of the most marvellous journeys on record, necessitating a reconstruction of the map of Africa, and making

for himself a name something more than famous. While at home he quietly separated himself from the London Missionary Society, and in 1858 accepted an appointment as consul at Quilimane and the command of an expedition to explore East and Central Africa in which he was accompanied by his brother, Charles L. and Dr. (afterwards Sir) John Kirk.

This second visit to Africa was fraught with trouble, and ended in the recall of the expedition and the loss of his appointment. The Univa. Mission that he established broke down owing to the death of Bishop



DAVID LIVINGSTONE

L N A

Makololo and a greater blow was the death of his wife at Shupinge in April 1862. Owing to this, however, he had done valuable work. He had explored the Shire to discover Lake Shweta and Nyasa, lying the foundation for the Nyasaland Protectorate and, above all, he had opened the eyes of the world to the horrors of the slave trade. He returned to England in July 1864 and after a year at home started on his last journey to Africa. He was appointed consul to Central Africa, without a salary, the gov. contributing only £500 to the expedition and the Geographical Society supplying the same amount. His object was to find the sources of the Nile and from 1866 he was lost to the world for five years, while he wandered over vast tracts of country from Lake Nyasa to Lake Tanganyika, making valuable observations but losing his health and strength in the attempt. It was during this period that he encountered the famous Arab slave dealer, Tippoo Tib, and

It was due to the accounts he sent home of the horrors he witnessed that the trade was eventually suppressed. Worn out with all he had undergone L. reached Ujiji in Oct. 1871, and it was here that H. M. Stanley found him, having been sent out to search for him by Gordon Bennett of the *New York Herald*. They remained together until March 1872, exploring the N. end of Tanganyika, then Stanley reluctantly left him, and L. proceeded on his way S. alone, but his health grew rapidly worse, and on May 1, 1873, his faithful follower found him dead. They were then at Chitambo's vil. on the Luimola in Itala, and nothing so well illustrates the deep affection that L. inspired in his followers by his unflinching kindness and humour as that journey taken across Africa to carry his body to Zanzibar. From there it was conveyed to England and was buried in Westminster Abbey, April 1874.

As a missionary L. was the greatest pioneer there has ever been, for he opened up the whole of Central Africa to the influences of Christianity, and he was the means of abolishing the slave trade; as an explorer he was unequalled, for he travelled over a third of Africa and profoundly changed the map of the continent, the keenness of his observation and his scientific training rendering his work of the utmost value, while his life and example have made him an inspiration for all time. He pub. an account of his first journey in a book entitled *Missionary Travels in South Africa* (1857) and of his second journey in *The Zambesi and its Tributaries* (1865), and his *Last Journals* were ed. by his friend the Rev. Horace Waller (1874). See H. M. Stanley, *How I found Livingstone*, 1872; B. Matthews, *Livingstone the Pathfinder*, 1921; L. G. Adams, *David Livingstone*, 1922; and Sir R. Coupland, *Livingstone's Last Journey*, 1945; also lives by W. G. Blaikie, 1880, and R. J. Campbell, 1929.

Livingstone, Sir Richard (b. 1880), Brit. classical scholar and educational reformer, son of Canon L. of Liverpool. Educated at Winchester and New College, Oxford. Vice-chancellor of Queen's Univ., Belfast, 1924-33; president of Classical Association, 1940-41; vice-chancellor Oxford Univ., 1944-47; president of Corpus Christi College from 1933 and librarian there. Especially noted for his appreciation of the value of classical literature as a continuing and living force in modern culture and of the place of humanist study in educational reform. He was a member of the Prime Minister's committee on classics in 1920; editor of *Classical Review* (with J. T. Sheppard), 1920-22. General editor and originator of the method employed in the Clarendon Series of Gk. and Lat. authors. Pubs. on the classics include *The Greek Genius and its Meaning to Us* (2nd ed., 1915); *A Definition of Classical Education* (second impression, 1917); *The Pageant of Greece* (1923); *The Mission of Greece* (1928); *Greek Ideals and Modern Life* (1935); *Portrait of Socrates* (1938); *Selections from Plato* (World's Classics) (1940); and *Thucydides* (World's

Classics) (1943). Works on education: *The Future in Education* (1943); *Plato and Modern Education* (Rede Lecture) (1944); and *Some Facts for Education* (1947).

Livingstone: 1. Township of N. Rhodesia, on the l. b. of the Zambesi R., about 3½ m. from the Victoria Falls. A reach of the riv. about 3 m. from L. forms one of the finest boating courses in the world. L. was the administrative cap. of N. Rhodesia until 1935, when it was superseded by Lusaka. It is connected by rail with the Congo border. A telegraph line runs beside this railway. L. has a white pop. of about 300. 2. Par. and vil. of Linlithgowshire, Scotland, 3 m. E. of Bathgate. It has oil works. Pop. 11,000.

Livingstonia Mission was estab. in 1875 by the Free Church of Scotland at Cape Clear, on the S. shore of Lake Nyasa. It was called after Dr. Livingstone, its object being to carry out his plans for the suppression of the Portuguese and Arab slave trade on the E. coast of Africa. In 1883 the mission moved to Bandawé, on the W. shore of the lake, on finding its former situation very unhealthy. See LAWS, ROBERT.

Livius, Andronicus, see ANDRONICUS, LIVIUS.

Livno, fortified tn. of Bosnia, Yugoslavia, 70 m. W. of Sarajevo. There is a trade in grain and live stock. Pop. 5,500.

Livny, tn. in the Kursk Region of the R.S.F.S.R., 80 m. S.E. by E. of Orel. It stands on the R. Sosna, and has a considerable trade in grain, cattle, leather, flax, etc. Soap and candles are manufactured. Pop. 21,000.

Livonia, Livland, Livlandya, or Libmaa, formerly one of the Baltic provs. of Russia. In 1918 it was divided between Latvia and Estonia, and has therefore lost its separate identity. In the area are included the is. of Osel, Mohn, and Paternoster, which with others form a group in the gulf of Riga. The country is flat and marshy, covered with dense forests. The chief lakes are the Peipus, or Chudskoe, and Virzaumi, and there are many rivers and streams, which include the Dvina, with its trib., the Livonian Aa, Pernau, Salis, and Embach. The chief occupation of the inhab. is agriculture. Rye, barley, oats, hops, and flax are grown, and dairy-farming and gardening are carried on. There are many important manufs., including distilling, oil-pressing, sugar refining, and there are paper-mills, woollen and cotton factories, tobacco, cork, soap, and petroleum works. L. was won from Sweden by Peter the Great, and it was formally ceded to Russia by the treaty of Nystad (1721). In 1835 the Russian code was introduced, and in 1867 the Russian language was recognised as the official language of the law courts.

Livorno: 1. See LIGNORNO. 2. Tn. of Italy, situated in the prov. of Novara. Piedmont, 17 m. W. by S. of Verceilli. Pop. 6,000.

Livre, old Fr. coin and the unit of the old Fr. money system. Before 1607 two ls. were coined, the L. tournois and the L. parisien. The first was divided into twenty

sous, each of which was divided into four bards or twelve demurs and this L was general throughout France. The second was divided in the same way, but equal in value to twenty five sous tournois. This was suppressed later on. The 1 tournois remained the monetary unit until 1793.

Livy, or **Titus Livius** (59 B.C. - A.D. 17) Roman historian b. at Patavium (Padua). He came of good family and was well educated being a student of Greek literature, rhetoric and philosophy. He sympathized with the Republic in party during the civil war and later when admitted to the court of Augustus, unlike his contemporaries Horace and Virgil he declined to flatter the emperor and prophesied the fall of the Roman Empire. However, he enjoyed the friendship of Augustus and maintained friendly relations with Claudius but on the accession of Tiberius, in A.D. 14, he retired to his native place, where he died. His hist. *Ab urbe condita* (lib.) relates the hist. of Rome from its mythical foundation down to the death of Drusus in 9 B.C. It was divided into 142 books, of which only thirty five remain but epitomes of 1-115 and the 146th and 147th books have come down to us. It is on the whole open minded and sympathetic. His facts are not always trustworthy for he was too credulous of the traditional accounts of previous authors and did not avail himself as much as possible of authentic documents. See eds. of the text by A. Drakenborch, 1753-1744; W. Weissenborn, 1838-62; and J. N. Madvig and L. L. Using 1863-7; Franke, P. Holland 1600; D. Spillan, C. Edmonds and W. A. McDivitt, 1849-50; and W. M. Roberts 1912. See also W. S. Teuffel, *History of Roman Literature* (trans.) 1891; J. W. Mackail, *Latin Literature*, 1891; and M. L. W. Laughton *The Greater Roman Historians* 1915.

Lixovium, see LIXICH.

Lizard, a general name for a large variety of reptiles belonging to the order Lacertilia. The limbs may be well developed as in the common L. or almost absent as in the serpents. Ls. lack the scaly covering of the body, and have neither the bony plate armour nor the socket lodged teeth of the crocodile. Two Ls. only are found in Great Britain though the green L. (*Acrotia viridis*) is a native of the Channel Is. The common or viviparous L. (*Vivipara*) is found on heaths and banks from early spring to autumn. It is about 6 in. long and is greenish brown on the upper part. The under parts are bright orange spotted with black in the male and in the female plain pale greyish green. The eggs hatch as soon as laid. The sand L. (*L. agilis*) occurs in the S. of England. It is usually a sandy brown with darker bands and black spots at the sides and occasional greenish blue sometimes confused with the green L. It is 7 in. long. The eggs are laid in a hollow in the sand, covered, and left to incubate. These Ls. are insectivorous, many of the foreign Ls. devour birds' eggs, and mice and even larger animals. Some are purely vegetarian. One of the most remarkable Ls. is the *Chlamydosaurus Kingi* (q.v.), the

frilled L. of Australia. The frill is a crinated membrane arising from the hinder part of the head. In the same continent occurs the extraordinary horned moloch or thorn devil. It is covered with rows of prickles, fortunately it is only 6 in. long. Fmy also is the dragon like basilisk of Central America. The flying gecko of Java has developed powers of gliding, a membranous expansion of the skin from limb to limb acting, as a parachute. See also CHAMAISON. See H. M. Smith *Handbook of Lizards*, 1946.



LIZARD

Lizard, Battle off the, took place in the 1st Dutch war off the L. Point on June 12, 1652 when Sir George Ayscue succeeded in capturing six vessels out of a fleet of forty Dutch merchantmen which he overtook on their voyage to the Indies.

Lizard, Frilled, see CHAMAISON. KINGI.

Lizard Head, or **Lizard Point**, most southerly point of Great Britain situated in Cornwall, England, in lat. 49° 57' 30" N. and long. 12° W. The prom. is 1.5 in. In 104 m. from Heston. There are several small bays, the most notable being Kynance Cove. The Lion's Den, another interesting feature, is a chasm formed in 1817 by the collapse of a cave. A dangerous reef known as the Slag-stretches S. off the point. There are two lighthouses.

Ljubljana, see LJUBACH.

Llama, member of the camel family native of Peru is a diminishing extent used as a beast of burden. The L. is much smaller than the camel and has no dorsal hump. It is white and sometimes spotted with brown or black. The fleece is long and silky and of considerable value. The flesh is eaten by the natives.

Llanberis, vill. of Carnarvonshire, Wales. There are two lakes and the mt. railway up Snowdon starts here. Much quarrying is carried on. L. Pass (q.v.) is one of the most savage and awe-inspiring of Welsh valleys, with huge glacier-borne boulders. It lies between Glyder Iawr and Snowdon.

rising to 1170 ft., and carries a coach road leading to Capel Curig and to Beddgelert.

Llanberis Pass, romantic pass from L. to Capel Curig, between the crags of the Glyders and the lower slopes of Snowdon. The road reaches a height of 1170 ft. at Pen-y-Pass, where there is an inn with many climbing associations. The Pen-y-Gwrydd hotel, also a resort of climbers, is a mile from the top on the Capel side.

Llandaff, Henry Matthews, first Viscount (1826-1913), Eng. jurist and statesman, b. in Ceylon. He was admitted as a barrister in 1850 and became a Q.C.

on the Ithon, 6 m. N.E. of Builth. It is a popular health resort, possessing medicinal springs. There are numerous Roman remains. Pop. 4000.

Llandudno, popular seaside resort of Carnarvonshire, N. Wales, at the mouth of the Conway on the Irish Sea, 37½ m. W. of Liverpool. A very fine marine 'drive' encircles the Great Orme, and there are noted caves under the Little Orme, as well as Druidical remains. It is also a life boat station. Pop. 21,000.

Llanelli, seaport, parl. bor., and mkt. tn. of Carmarthenshire, Wales, on Buivy Inlet, 10 m. N.W. of Swansea. Coal is



LLANDAFF CATHEDRAL

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and a benchor of Lincoln's Inn in 1868. He sat on the Conservative side in Parliament, representing Dungarvan (1868-74) and E. Birmingham (1885-92), being home secretary under Lord Salisbury from 1886 to 1892.

Llandaff, city of Glamorganshire, Wales, 2 m. N.W. of Cardiff. The see is regarded as the oldest in Great Britain; its cathedral was restored in 1844-69, but severely damaged by bombing in 1941. Pop. 13,000.

Llandeilo, par. and vil. of Carmarthenshire, Wales, situated on the Loughor, 5 m. S. of Llandilo. The dist. is mountainous, and coal and limestone are abundant. Pop. 8000.

Llandovery, municipal bor. and mkt. tn. of Carmarthenshire, Wales, 18 m. N.W. of Brecon. It is an agric. and mining centre. Near by there are ruins of a Norman castle. Pop. 2000.

Llandrindod Wells, urban dist. and mkt. tn. of Radnorshire, Wales, situated

extensively shipped from the three docks. It is the centre of the tinplate industry, and there are large copper smelting works, potteries, rope works, saw mills, and manuf. of bricks and chemicals. Pop. 34,000.

Llanes, seaport of Oviedo, Spain, on the bay of Biscay. The prin. trade is in agriculture and dairy produce, fish and timber. Pop. 19,000.

Llanfalfiechan, urban dist. and seaside resort of Carnarvonshire, Wales, 7 m. S.W. of Conway, near the foot of Pen-y-mawr. Pop. 3000.

Llangollen, par. and tn. of Denbighshire, Wales, on the Dee, 9 m. S.W. of Wrexham. It is a popular summer resort. L. is noted for its linen and woollen manuf., especially flannel, and there are slate quarries, coal-mines, etc. The vale of L. is noted for its beauty. Pop. 3000.

Llanos, enormous plains lying E. and S. of the Andes, sloping towards the affluents

of the Orinoco and the Amazon. This plains region is 640 m. long and 300 m. wide, and is covered in part with forest and elsewhere with grass, the elevation being from 300 to 500 ft. above sea level. A part of this ter. is unexplored, and offers an interesting field to the adventurous traveller. In the rainy season the l. are inundated for thousands of sq. m., with a network of connecting channels. In the dirts, formerly occupied their character has changed somewhat, due to the decline of stock and horse raising. The Llaneros were a hardy race of horse-men of Venezuela and formed some of the best fighting material in S. America, but they were so greatly reduced in the War of Independence, and in later civil strife, that both they and their herds have nearly disappeared.

Llanquihue, prov. of S. Chile, between the Andes and the sea. Cap. Puerto Montt, on the bay of Reloncavi. The N. part of the prov. consists of a broad plain, but in the S. it is intersected by narrow fords and has fine rugged scenery. There are extensive forests. Timber, wheat, barley, and livestock are produced. It covers an area of 7000 sq. m. and has a pop. of 117,200.

Llanquihue Lake, in the prov. of L. S. Chile, 14 m. N. of Puerto Montt. Is the largest fresh-water lake in Chile, and covers an area of about 225 sq. m. It has an altitude of 170 ft., and is deep and clear. The volcanoes of Osorno and Calbuco rise above it. The lake is drained S.W. by the R. Maullin into the Pacific.

Llanwrst, tn. in Denbighshire, Wales, 12 m. S. of Conway, on the Conway, spanned by a handsome bridge. It has tanning and mulling industries. Pop. 2100.

Llerena, tn. of Badajoz, Spain, 62 m. S.E. of Badajoz. It possesses a copy of the tower of the Giralda of Seville. There are silver mines in the dist. Near by the Fr. cavalry were routed by the Brit. on April 11, 1812. Pop. 7000.

Llewellyn the Great (d. 1240), prince of N. Wales, b. after his father's expulsion, recovered the paternal inheritance in 1191, while still quite a young man. After his accession he married the illegitimate daughter of King John, but continual quarrels arose between him and his father-in-law, who reduced L. to submission in 1211. In the following year the latter recovered all his losses in N. Wales, and in 1215 took Shrewsbury. Throughout his reign he was continually at war with the Marchers of S. Wales and, at the beginning of Henry III.'s reign, was frequently attacked by Eng. armies not acknowledging that king's suzerainty till 1230. In the following year he abdicated in favour of his son David and retired to a Cistercian monastery.

Llewellyn, Richard (real name Richard David Vivian Llewellyn Lloyd), (b. 1907). Welsh author and playwright, b. at St. David's, Pembrokeshire, Wales. *How Green was my Valley* (1939), his story of a Welsh mining community at the end of the nineteenth century, was made into a film, proving very popular. His other works include *Pinson Pen*, a *Play in*

Three Arts (1933), and *None But the Lonely Heart* (1933).

Lloyd, Edward (1815-1927), Eng. tenor, b. in London, son of Richard L., vicar-choral at Westminster Abbey. He was trained in the abbey choir, 1852-60, and later became solo tenor at the Chapel Royal. In 1867 he appeared at concerts, and in 1871 took part in the Gloucester musical festival. After 1888 he was the prin. tenor at the Handel festivals, and toured in the U.S.A. 1888, 1890, and 1892. He formally retired in 1900, and sang in public for last time at a Mansion House concert for Belgian refugees in Feb. 1915.

Lloyd George of Dwyfor, David Lloyd George, first Earl (1863-1945), Brit. statesman, b. at Chorlton-on-Medlock, Manchester; son of Wm. George, a native of Fishguard, S. Wales, and a schoolmaster, who left school-teaching for farming when David was less than a year old, and who d. on his farm near Haverfordwest, 1864. His family were looked after at Llanystumdw, Carnarvonshire, by his brother-in-law, Richard Lloyd, shoemaker of that place, and preacher to a sect called the Disciples of Christ. David was educated at the vil. school. He was articled in 1879 to a member of the firm of Breeze, Jones, & Casson, solicitors, Portmadoc. In 1880 the family moved to Cricieth, where in due time David was baptised by his uncle in the brook in front of the Disciples' chapel. Apropos of the general election of 1880 David wrote, under the pseudonym Brutus, some 'Political Shreds' for the *N. Wales Express*.

thus early displaying his taste for invective and high-flown oratory. In 1884 he was admitted solicitor, and began practice at Cricieth. He constantly spoke in court and on platform. In 1886 he organised a Farmers' Union for the Lleyn and Eifonydd. In 1889 he became one of the new co. aldermen. At a by-election, April 10, 1890, he was elected to Parliament by a small majority for Carnarvon Dors., replacing a Conservative. He never ceased to represent that constituency.

He went to Westminster rather as a Welsh nationalist and Nonconformist than as a Liberal. In his maiden speech, June 13, 1890, on the compensation clauses of the Local Taxation Bill, he made his first parl. attack on Joseph Chamberlain. In Welsh matters he was frequently in conflict with his leaders. It was largely through his efforts that Welsh disestablishment became an item in the Liberal programme. Under Lord Salisbury's last gov. he was, May 22, 1896, suspended for obstruction. He spent that year's vacation in S. America. In 1899 he was in Canada. When the trouble with Kruger began in S. Africa he was by no means opposed to the Boer cause, and indeed increased his majority in the 'khaki election' of 1900. He had no fear of the fervour of patriotic mobs, but had a narrow escape on Dec. 18, 1901, when the police insisted, for his safety, on disguising him as a constable before allowing him to leave Birmingham tn. hall, where his meeting had been broken up.

In 1905 he was made privy councillor and joined Campbell Bannerman's Gov. as president of the board of trade with a seat in the Cabinet. When Asquith succeeded Campbell Bannerman in 1908 L. G. became chancellor of the exchequer. In 1909 he brought in a counterblast to Chamberlain's Tariff Reform his famous second budget, with its graduated direct taxation and its beginning of Henry George taxation on land values. On July 30 he made his famous speech at Limehouse, echoing Chamberlain's old gospel of 'ransom'.



Elliot & Fry

DAVID LLOYD GEORGE

The agitation over the Lords' rejection of the budget ended in the Parliament Act of 1911 (*q.v.*). In that year L. G. carried his National Insurance Act which was his main achievement in social legislation. On July 14 of the same year at the Mansion House, he shook the mailed fist of the Brit. Gov. at Germany over the affair of Agadir (*q.v.*). As a debater L. G. had few equals in the House of Commons of his day, and certainly no superiors. On the public platform he was equally effective, though his style of oratory occasionally lapsed from the best flights of his more radical days. Many a striking phrase which illumined his fighting addresses, such as 'the ramshackle Empire,' in allusion to the dual monarchy, and 'the silver bullet' in allusion to war loans, gained something more than a temporary currency.

In May 1915 L. G. became minister of munitions when the Asquith Gov. was reorganised on non-party lines. In June 1916 he succeeded Lord Kitchener as war minister. Shortly afterwards he resigned

as he was at variance with Asquith over the method of conducting the war. This led to Asquith's resignation on Dec. 5, 1916. Bonar Law supported L. G. who thereupon formed a new Coalition Gov. with himself as Prime Minister. For the remainder of the war which he prosecuted with vigour his position was unchallenged. When the war ended the specially prolonged Parliament of Dec. 1910 was succeeded by that of Dec. 1915 which supported L. G.'s Coalition Gov. His election was known as the 'coupon election', because L. G.'s supporters both Tory and Liberal received countenance that was denied to other Tories and Liberals and were in the position of coupon holders in a competition.

L. G. was the principal representative of the Brit. Empire at the peace conference and remained a member of its council when that body was reduced to four members (see *TRUCE (CONFERENCE)*). Peace having been settled at Paris war broke out in Ireland which had ceased to send its nationalist representatives to Westminster. After the disaster in Ireland of the Black and Tans (see *IRA (1914-1916)*) and the peace treaty that set up the Irish Free State and alienated much of the Conservative support which was entirely withdrawn in 1922, L. G. and the Coalition fell and L. G. invited the Liberal leader, Mr. Asquith, to visit the U.S.A. in 1923. But L. G.'s strength against the other wing of Liberalism was a fund of election war chest contributed while he led the Coalition. He became leader of the whole Liberal party in the Commons when Asquith became Earl of Oxford and Asquith in 1925. In 1926 he sided with the Labour leaders against an own colleague as to the action of Baldwin's Gov. over the general strike.

On the death of Lord Oxford and Asquith L. G. was still Liberal leader but his party in the Commons was small its chief importance after the general election of 1929 arose from its balancing power. At that election his daughter Megan was returned for Anglesay as a member of his party.

After the death of L. P. C. in Nov. 1929 L. G. became the father of the House of Commons and from 1931 in which year he underwent a serious operation he retired into the position of an elder statesman. He was opposed to Ramsay MacDonald's Gov. on the Loco Trade issue and the Ottawa agreements. In 1931 also he left the Liberal party, setting up an Independent Liberal party, but rejoined forces with the Liberals in 1935. In the years which led up to the Second World War he was critical of the appeasement policy followed by Neville Chamberlain's Gov. Shortly before his death he was created Earl of D. He had been awarded the O.M. in 1919 and the Grand Cordon of the Legion of Honour in 1920. In 1948 he married Margaret Owen (created D.B.E. 1949), who d. in 1941, and in 1943 Frances Stevenson, his private secretary. He d. on March 26 1945. His memoirs were pub. in 6 vols. in 1933-38. See lives by J. H. Edwards, 1913, B. G.

Evans, 1916; J. H. Spender, 1922; J. Mills, 1924; A. W. Sylvester, 1917; and by M. Thomson (with the collaboration of Frances, Countess L. of D.), 1918.

Lloyd of Dolobran, George Ambrose Lloyd, first Baron (1879-1941), Brit. diplomat, administrator, and statesman, b. of a Welsh family. He was educated at Eton and at Trinity College, Cambridge, and later travelled widely in Asia and N. Africa, acquiring an intimate knowledge of E. affairs. After serving as attache in Constantinople he entered Parliament as Unionist member for W. Staffordshire and strongly supported Joseph Chamberlain's tariff policy. In the First World War he served in Egypt and Gallipoli, and later in Mesopotamia, organising Kitchener's intelligence service in the E. and assisting in the organisation of the sheriff of Mecca's forces in the Arab revolt. In 1918 he became governor of Bombay, where he suppressed, without recourse to martial law, outbreaks of mob violence at Ahmednagar. Later, in 1922, he had to deal with disorders caused by the breakdown of negotiations between the viceroy, Lord Reading, and the Indian extremists led by Gandhi *q.v.* Among the achievements of his term of office in India were slim clearance in Bombay, the setting up of the first Indian Labour Bureau, the introduction of 'permit-free' free compulsory education, and the inauguration of the Sukkur (Lloyd) Barrage scheme, which brought fertility to a great area of Sind and led to its constitution as a separate prov. in 1936. He was made privy councillor in 1923 and was Unionist member for Eastbourne for six months. In 1925 he was appointed high commissioner for Egypt and the Sudan and later in the same year raised to the peerage. His three years in Cairo marked the turning point in his career: for though disapproving of the declaration of 1922 he was prepared to respect Egypt's independence in internal affairs but equally demanded respect from Egypt for the Brit. reservations. In 1929, when Arthur Henderson became foreign secretary under the Labour Gov., L., who was home on leave, resigned the high commissionership, this being interpreted in Unionist circles as tacit dismissal. The check, however, did not interfere with his work for the nation. He became president of the Navy League, was closely associated with Winston Churchill from 1933 onwards in opposition to the legislation for an All-India Federation and, in 1937, became chairman of the Brit. Council. When Churchill formed his Cabinet in May 1940 L. was appointed colonial secretary, but his unexpected death came too soon for him to leave his mark on colonial administration. He wrote *Egypt since Cromer* (1933-34). See C. F. Adam, *Lord Lloyd*, 1948.

Lloyd, Robert (1733-64), Eng. poet and dramatist. His dramatic pieces include *The Tears and Triumphs of Parnassus* (1760); *The Death of Adam* (1763); and *The Capricious Lovers* (1764). There is a biography by W. Kenrick, in the *Poetical Works*, 1771.

Lloyd's, association in London of underwriters, shipowners, and marine insurance brokers. The name is derived from the coffee-house of Edward Lloyd (seventeenth century) in Tower Street, where merchants met together for social and business purposes. In 1692 Lloyd moved into larger quarters at the corner of Lombard Street and Abchurch Lane, where his house became the great centre of business and exchange in all matters concerned with marine commerce. In 1696 this enterprising proprietor founded *Lloyd's News*, a single sheet containing both general news and some marine intelligence; in 1726 it was renewed as *Lloyd's Post*, *Lloyd's List* and *Shipping Gazette* was founded in 1734. In 1774 L. moved to the old Royal Exchange, under the control of John Julius Angerstein, and in this year gathered full details of the character and structure of every ship of size, publishing them in a vol. called *Lloyd's Register*; from this grew the vast association known as L. Register of Shipping. About this time the various-merchants, brokers, and underwriters seem to have united for their common interests. In 1811 the association was reorganised, after a committee appointed by Parliament had inquired into its affairs, and in 1871 it was formally incorporated by Parliament. In 1838 the Royal Exchange was destroyed by fire and most of L. records were lost. The Exchange was rebuilt and opened in 1844 by Queen Victoria. The business developed enormously and a new home had to be erected. In 1923 the site of the old L. India Company in Leadenhall Street was purchased; in 1925 George V. laid the foundation stone of the new building, and on March 21, 1928, accompanied by the queen, he declared it open. L., besides insuring property afloat, is the great centre of supply and distribution of shipping intelligence. Individual underwriters of L. have absolute independence in all business transactions, but are required to deposit heavy securities of approved first-class investments, each of which, by a trust deed, is made applicable exclusively to the underwriter's liabilities to L. Every form of insurance is now included, except life (but contingency business was recommended for restrictions following the inquiry into the disclosure of budget secrets in 1936). L. was the pioneer in burglary, fire, marine, and earthquake insurance, and during the First World War it insured against damage from enemy aircraft. A committee appointed by the members manages the affairs of the institution. For the list of the project see C. Wright and C. E. Fayle, *History of Lloyd's*, 1928, and R. Straus, *Lloyd's Historical Sketch*, 1937. Many journals on marine matter are issued by the institution, such as *Lloyd's Weekly Shipping Summary*, *Lloyd's Daily Index*, *Lloyd's Weekly Casualty Reports*, *Lloyd's Loading List*, *Lloyd's List Law Reports*, *Lloyd's Confidential Index*, *Lloyd's Calendar*, and *Lloyd's Reports of Price Cases*.

Lloyds Bank, estab. in 1765 under the name Taylor and Lloyd, was incorporated

100 years later, in 1865, as a joint stock company with the name L. Banking Company Ltd. Originally the business of the bank was in Birmingham and the Midlands. The name was changed to L., Barnett's, and Bosanquets in 1884, and the present title was adopted in 1889. It is now one of the 'Big Five.' Its subscribed capital is over £73,000,000, composed of 'A' shares (£5 each, of which £1 is paid up), and 'B' shares (£1 fully paid). L. is interested with the National Prov. Bank in the L. and National Prov. Bank Ltd., with branches in France and Belgium, and it is also associated with the National Bank of Scotland, the Bank of London and S. America, the National Bank of New Zealand, and others. The head office is at 71 Lombard Street, E.C.3.

Lloyd's Bonds were devised by an Eng. barrister, John Horatio Lloyd, to enable a company to borrow in excess of its statutory powers. They were issued by railway companies, under their seal, as an obligation for work done or materials supplied by contractors, and as a promise to pay the due amount with interest at a future date. Such bonds could not be issued without consent of the shareholders of the company, and were not valid as an obligation to pay back a mere loan of money.

Lloyd's Register of Shipping, society formed for the classification of ships according to their strength and efficiency for carrying cargoes. Its affairs are managed by a general committee of 111 members, composed of merchants, ship-owners, underwriters, shipbuilders, and marine engineers, who are elected at the chief ports of the country. An advisory technical committee assists the general committee, and there are national committees in the prin. maritime countries abroad. Under the committee is a staff of surveyors, who supervise and report on the construction of ships and engines, and who hold periodical surveys on the hulls, machinery, boilers, chains, anchors, etc., of a ship after construction. Under their authority the society assigns maximum load lines to merchant ships and tests the anchors and chains at all public proving houses. *Lloyd's Register Book*, containing particulars regarding the classification of Brit. and foreign sea-going ships, is issued annually. The society also publishes annually *Lloyd's Register of Yachts*, etc. The society, which originated in Lloyd's Coffee House, was founded in 1760 and reconstituted in 1831. The 'Underwriters' Registry for Iron Vessels, Liverpool, was united with Lloyd's Register in 1885, as was also the Brit. Corporation Register of Shipping and Aircraft, Glasgow, in 1919.

Llywarch Hen Poems, see WALLIS.

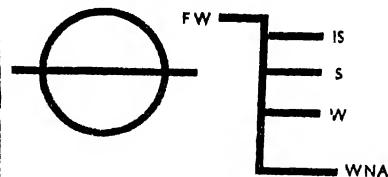
Language and Literature.

Loach, small fish peculiar to the old world. There are three European genera and two are represented in Britain, each by a single species, the common or stone L. (*q.v.*) and the spotted L. or groundling (*q.v.*). The giant L. occurs only on the Continent.

Load, in mechanics, the amount of work done by an engine working up to its

capacity; the power generated by an engine or the output of an electric motor, etc., under any given circumstances.

Load Line, line 18 in. long, drawn through a circular disk, 12 in. in diameter, painted on a vessel to indicate the depth to which a vessel is allowed by law to sink in salt water after being loaded. The distance between the centre of the disk and the edge of the topmost continuous deck at the middle of the length is called the 'freeboard' (the freeboard mark is regarded by sailors as the Plimsoll line). The centre of the disk indicates the freeboard for the summer season and other lines give the loading for winter and for winter N. Atlantic services. It was enacted by the Merchant Shipping Act of 1876, through the influence of Plimsoll, that every Brit. ship must be so marked and ships. In 1890 the law was amended so that the fixing of the height of the L. L. should be under the control of the Board of Trade. In the Merchant Shipping Act of 1906 the L. L. was raised as a concession to the shipowners. In 1929 a



LOAD LINE

FW, fresh water; IS, International Summer; S, summer; W, winter; WNA, winter N. Atlantic.

Board of Trade committee framed new rules for determining the maximum L. L. of merchant ships, together with conditions under which loading deeper than hitherto allowed could be permitted in the case of tankers and steamers carrying deck cargoes of timber. The first International L. L. Convention was signed in 1930. This convention applies to all ships engaged on international voyages belonging to the signatory nations, excepting warships, fishing boats, pleasure yachts, ships not carrying cargo or passengers, and ships of less than 150 tons gross. Under this convention the maximum summer freeboard for ordinary steam ships of 100 ft. length is 71.5 in.; for a tanker of the same length it is 62.5 in. For voyages across the N. Atlantic during the winter the minimum freeboard for tankers is the winter freeboard plus an addition of 1 m. for 100 ft. in length. The ordinary minimum N. Atlantic freeboard applies only to ships not exceeding 330 ft. in length and is an addition of 2 in. to the winter freeboard. The law on the L. L. is contained in the Merchant Shipping (Safety and Load Lines Conventions) Act, 1932. The Board of Trade is empowered to make L. L. rules to implement articles of the L. L. convention. There are provisions

for marking of deck and L. La. conditions of issue of L. La. certificates and loading of timber. Submersion of the L. La. entails a fine up to £100. See PRIMSOL, SAMUEL MERCHANT SHIPPING. For full details see Brasse's *Naval and Shipping Manual* and Lloyd's *Calendar*.

Loadstone, see MAGNETITE.

Loam, soil mixture of sand silt, and clay with some humus; a high proportion of sand gives a light L. of clay a heavy L. Heavy Ls. need to be liberally manured with divish organic matter (stable manure, rotted dung or compost, leaf mould, peat, etc.) to improve texture and limed regularly to improve soil structure and to liberate inherent fertilising elements, as plant foods. Light Ls. are easily worked and need no draining, but are improved by liberal organic manuring with fresh or rotted organic matter by claying or mauling and when acid by liming profusely with chalk. The ideal L. is a medium one the clay fraction leaving a greasy mear when rubbed between the fingers and thumb. All loamy soils are good for farming and are of a gardening light L. being especially suitable for early cropping. Heavy loams for mow and late crops. L. forms the essential basis of composts for seed sowing, potting, and plants and is glass. Gardener's L. consists of turves 12 in. by 9 in. by 14 in. thick, cut from pasture land stacked grass side down in moist condition and allowed to rot for six to twelve months. It is taken from clean cultivated land and need not rotting down at all. In modern composts such as those of the John Innes formula the quality of the L. is not of first importance but is an abundance of fibre necessary since added fertilisers assure good nutrition and added peat provides texture. The L. portion of a compost should be sterilised separately.

John Innes formula. *Seed Compost* 2 parts by bulk L. 1 part peat 1 part sharp sand, plus 14 oz. superphosphate and 2 oz. ground chalk per bushel. *Potting compost* 7 parts by bulk loam 1 part peat, 2 parts sharp sand, plus 14 oz. L. Base (2 parts by weight hoof and bone dust 2 parts superphosphate, 1 part phosphate of potash), and 2 oz. ground chalk per bushel. *Cuttings Compost* 1 part by bulk L., 2 parts peat 5 parts by bulk sand.

Loan 1. Loan of things. If A delivers goods to B to be taken care of gratuitously, B, the depositary, is not entitled to make use of the goods, unless no harm would come to them by his so doing. In general a deposit is not a L. at all. The true bailment for L. is called after the civil law a 'commodation' or the L. of a thing to be returned just as it is. The borrower must return the thing in as good order as he had it, reasonable wear and tear excepted, but is not responsible for loss by accident or theft due to no carelessness on his part. In a *medium*, on the other hand, the borrower must, in all events, return an equivalent of the thing borrowed. The borrower has no lien (q.v.) on the thing for antecedent debts due to

him, nor can he retain the thing against expenses of keeping it, but he is entitled to damages if injured by defects in the thing which the lender was aware of but did not disclose. 2. **Loan of money** may be either on personal security only or as by note of hand or it may be secured by a charge (see EQUITABLE CHARGE), or mortgage of real or personal property. If nothing is said in a contract of L. about interest, the lender would ordinarily be entitled to be paid interest at the current or market rate. See also MONEY LENDER; LOANS PUBLIC.

Loanda, Sao Paulo de, capitol on the W coast of Africa, former cap. of the Portuguese colony of Angola, situated between the mouths of the Bengo and Kwango, and protected from the sea by a narrow strait, is 15 m. long. It affords good harbourage and there is also a floating dock. It has a meteorological observatory. The chief trade is in tobacco, Indian rubber, castor palm oil and coco nuts. Pop. 20,000.

Loango, 1. Port of W. Africa extending along the coast of the Atlantic, northwards from the Congo. It was divided between Portugal and Congo by the Berlin conference of 1885. The export consist of gums, wax, palm oil, copper, etc. 2. Im. port of port of E. Africa on the coast 100 m. N. of the mouth of the Congo. Steamers call here 3 m. off the coast. Wharf building began in 1912.

Loans, International, see INTERNATIONAL WOODS APPLICANTS INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT ORGANISATION FOR EUROPEAN ECONOMIC CO-OPERATION.

Loan Societies are societies or associations established under the Loan Societies Act, 1910 for the purpose of advancing money on loan to persons of the working class, to be repaid with interest by instalments. A S. must submit their rules for approval by the Registrar of Friendly Societies. No greater sum than £15 can be lent to any one person. No second or other loan can be made to the same person until the interest on loan has been repaid. No note or security given to a L. Society is either liable to stamp duty or capable of being transferred. By the combined effect of the Act of 1940 and the Loan Societies Act, 1913 loans are recoverable by demand in writing left with or sent by post to the borrower by the treasurer of the society, if the borrower neglects to comply with the demand the treasurer may prefer a *complaint* to a justice of the peace, who may order such sum to be paid to the treasurer as appears to be due.

Loans, Public. The Public Works Loan Commissioners are a body set up by the Public Works Loans Act, 1875, for the purpose of making advances to local authorities and other out of moneys placed at their disposal by the state, from time to time, for the execution of works of public benefit. They are authorised to lend on the security of the rates at a rate of interest which is fixed by the Treasury at various periods, and they are required to make a report of their transactions during

each financial year to the Treasury, which report is presented to Parliament. Money can only be borrowed for 'permanent works' such as electricity supply, gas works, light railways, docks, piers, canals, quays, tramways, markets and water ways. Subject to the agreement under which the advance was made a loan must be repaid either by equal annuities with interest, or by means of a sinking fund which, with the accumulation of compound interest from the investment of such fund in government securities, will suffice to pay off the loan within the sanctioned period.

Lobachevsky, Nicholas Ivanovich (1793-1866) Russian mathematician, b. at Nijni Novgorod. In 1826 he was made prof. of mathematics at Kazan. He was a pioneer of the modern geometries of the non-Euclidian theory. Amongst his principal works are *Principles of Geometry* (1829, 1830), *Imaginary Geometry* (1855), *Non-Euclidean* (trans. 1902), etc. See *Encycl. Brit.* *Lobachevsky* 1899.

Lobau 1. Fr. of Saxony (Germany) on the Schwarzwasser 12 m S.E. of Bautzen. There is a noted spa. The industries include pianoforte factories, sugar factories, spinning, weaving etc. and a trade in linen and yarn. Pop. 13,700. 2. Is. of Lower Austria 3 m below Vienna in the Danube. It is 4 m in diam. The Fr. were entrenched here in 1806 for six weeks. During the Second World War the is. was used for the storage of oil in underground tanks, and was in consequence heavily bombed.

Lobby, term in American politics signifying to loiter in the lobbies of political committees and deliberative assemblies for the purpose of influencing members. In many states it is now a felony.

L'Obel, Matthias de (c. 1558-1611) Botanist, b. at Lille, who gives his name to the lobelia plant. James I. appointed him his botanist and Lord Zouche placed him in charge of his garden at Hardwicke, N. London. He was the author of a vast Latin work on plants.

Lobelia, large and varied genus of annuals and perennials, some hardy, some tender, belonging to the order Campanulaceae. *L. cardinalis* or cardinal flower is a tall perennial nearly hardy bearing flowers of a rich cardinal crimson during the late summer and early autumn. *L. inflata*, or Indian tobacco, yields lobeline, an alkaloid used as an antidote to overdoses of narcotic drugs. *L. crinus*, a S. African species, has given rise to a large number of dwarf bedding varieties of various shades of blue, white, and maroon. *L. fulgens* like *L. cardinalis* is an Amer. species, growing from 1 to 3 ft. tall, flowering in May. Its varieties include white, rose, violet, and blue colours. *L. siphilitica* is hardy, and has given rise to numerous blue and white hybrids. The dwarf *Ls.* thrive best in a light soil, but the taller species need abundant plant food and frequent watering.

Lobengula (1833-84) became king of the Matabele in 1870 on the death of his father, and made Bulawayo his cap. In 1883 he signed a treaty with England

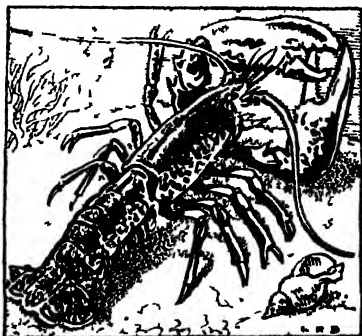
admitting her suzerainty, but on the British Africa Company receiving permission to settle in Mashonaland in 1892, L. made repeated raids against the Eng. and in 1893 his cap. was taken and he was forced to fly, dying not long afterwards.

Lobito Bay, harbour on the W. African coast near Benguela, Angola. The W. coast of Benguela is built up from L. B. was completed in 1931. This line meets the main line from Cap Town at Penha. By the completion of this branch line, K. tanga is linked by rail with both E. and W. seaports, the first train to cross the continent of Africa (Lobito to Beira 2949 m.) leaving L. B. on July 1, 1931.

Lob Nor, or **Lop Nor**, lake of Central Asia at an altitude of 2600 ft. in the desert of Gobi-Sinkiang, divided into two sections, Kora-Buyn and Chon-Kul. It formerly constituted the final receptacle of the waters of the Tarim R. It dried up, but the investigations of L. Tchekolski in 1877 and 1882 and of Sven Hedin showed the boundaries to be shifting. The lake is now only a few feet deep and is rapidly becoming dried up. In 1883, Przhevalski found about 100 Turk and Mongol settlers on its confines. At the W. end of the former lake there is a vil. of Lob.

Lobo, Jeronimo (1595-1675) Jesuit missionary, b. at Lisbon. In 1621 he went to India, but in 1625 left for Abyssinia where he became his mission's Librarian, being superintendent of missions in the region for nearly ten years. He left 100 and paid a fortune of 10,000 Portuguese Mts. account of his travels in Abyssinia forms a valuable link in an otherwise lost by Dr. John H.

Lobositz, see *Leobersdorf*.



LOBSTER

Lobsters are aquatic crustaceans of the macrurus or long-tailed type of the order Decapoda. Their long tail distinguishes them clearly from crabs, in which the segments of the tail are short and flattened and expanded laterally. The common lobster (*Homarus vulgaris*) frequents rocky coasts, varying slightly according to locality. The general colour is a dull pale reddish-yellow, spotted with bluish-black. The female carries the eggs attached to the

false abdominal swimming feet, until they hatch into shrimp-like larvae, which lead an active existence in the open water, and are much preyed upon. When mature the average weight of the common lobster is from 8 to 12 lb. Enormous catches of *L.* are made annually from March to Aug., but the supply is augmented by imports of the large Amer. lobster and of the elegant Norway lobster. The common spiny lobster is of very ant. origin, and is found on the W. coast of England, often being taken in crab pots. The shell or carapace is thickly covered with spines of various sizes and a large spine occurs over each eye. It has the power of producing a loud noise by rubbing the antennae against the carapace. The size of *L.* is regulated by restrictions as to a minimum at Billingsgate and other fish markets, but in spite of the prolificacy of the females the numbers are believed to be decreasing.

Lob-worm, *see* LUG-WORM.

Local Debts, *see* PUBLIC DEBT.

Local Defence Volunteers, *see* HOME GUARD.

Local Government is the part of the administration of a state, undertaken by bodies subordinate to the central gov., which deals with matters affecting the living conditions and welfare of the inhab. of a particular place or dist. The bodies entrusted with these matters are called local authorities. Their constitution is laid down by statute, and with some minor exceptions in the case of bors., they can only do those things which they are authorised to do by statute. In general, they undertake duties and exercise powers conferred upon them by the central gov., and consequently there are a considerable number of Acts of Parliament dealing with the powers and duties of local authorities.

L. G. has its roots deep in the hist. of the United Kingdom and the present-day structure is not markedly different in principle from what it was in the days when the freeholders assembled in the shire moot, assessed themselves to imperial burdens, and declared what the local usages or laws were; when the hundred (q.v.) was answerable for the good order of its inhab., and when the freemen of the tn. moot made their by-laws and the tithing-man kept the peace. The very form of the various local governing bodies of today is to be detected in their Saxon or Norman analogues: the co. council and the shire moot, the dist. council or municipal corporation and the tn. moot, the hundred moot and the co. sessions, present striking features of similarity. The functions *per se* of local governing bodies vary but little from those of ant. times. Convenience and economy make it essential that local bodies shall assume certain functions relating to public health, including food and drugs, refuse collection and disposal, maintenance of highways and bridges, preservation of order, provision of educational facilities, parks, recreation grounds, public baths and wash-houses, and cemeteries.

A remarkable feature of modern L. G.

has been the rapid advance in municipal trading. In 1868 the local expenditure of the United Kingdom was £36,000,000, at the end of the century it had grown to £152,000,000, and in 1939-40 the aggregate expenditure of local authorities amounted to £578,000,000. This expenditure, coupled with an outstanding capital debt of £1,631,000,000 in 1939-40, gives some idea not only of the great expansion, but also of the extent of local authority activities.

A large part of this increase has been due to the housing activities of local authorities which were first undertaken on a large scale after the First World War to help meet the acute housing shortage, and once again after the Second World War local authorities are incurring heavy capital expenditure on housing. The increase in the fifty years prior to the First World War was due partly to the progress in municipal trading enterprise a feature of public life which was regarded by such writers as Lord Avebury, and no doubt with strict historical accuracy, as entirely opposed to the liberal teaching of Cobden, Mill, and Bright. It was urged that municipal trading was undesirable, not only on account of the incidental increase in municipal debt, but because pre-existing functions of municipalities were enough to absorb all their energies, and to add to those functions was to check progress and discovery. Experience, however, showed that municipalities were not embarrassed by the added duties involved in providing and managing tramways, railways, omnibuses, steamboats, and various other public utility undertakings such as gas, electricity, and water. The nationalisation of electricity and transport in 1948, however, placed such undertakings outside the sphere of L. G., and similarly the National Health Service Act, 1948, and the National Assistance Act, 1948, transferred responsibility for public health and poor law administration away from the local to the central authority.

L. G. is carried on under the close supervision of certain gov. depts., the chief ones being the Ministries of Health, Transport, Education, and the Home Office. The Ministry of Health, as successors in 1919 to the L. G. Board, have a special place in the central control of local authorities. It is the gov. dept. responsible for the supervision of the financial and administrative economy and machinery of local authorities, exercised by means of loan sanctions for capital expenditure, necessitating detailed examination of the proposals, consents to sell land, and the examination of accounts. The Ministry of Health employ inspectors to assist in this supervision and the country is covered by a service of dist. auditors who, in general, examine in detail the financial transactions of local authorities and report thereon to the ministry.

The Poor Law Act, 1801, is the first big landmark in the present structure of L. G., as this statute estab. the principle of local responsibility by making the par. responsible for the relief of the destitute

found within the boundaries of the par. During the next two centuries L. G. advanced very slowly until the industrial revolution, which commenced in the latter half of the eighteenth century, altered the whole basis of the social and economic structure of Great Britain. Small vils. became, within a matter of years, large industrial tns., and the need for public health measures, which could be ignored when people were gathered together only in small communities, became not only apparent, but absolutely necessary. Other services were also required, such as lighting and watching, and the provision of highways as a means of quick and safe communication for industry.

Very few tns. had any body of persons to whom these services could be entrusted, and in general the method adopted for the country was to appoint a body or board of commissioners for each service. The areas of these boards did not coincide, and as separate boards were appointed for each service the hist. of L. G. in the first half of the nineteenth century was marked by a chaos of authorities, areas, and rates. In many of the corporate tns. boards were appointed to look after specific services, because of the corrupt nature of some of the corporate bodies. An attempt was made to reform these corporate bodies by the passing of the Municipal Corporations Act, 1835, and subsequent experience indicated that once reform had been carried out then these corporate bodies were satisfactory 'omnibus' authorities, that is, authorities which could undertake more than one service for their particular area. The setting up of separate authorities for the sev. services was not a satisfactory method of dealing with the problems of a changing economic order, and the remainder of the nineteenth century is marked by the reform of the L. G. structure of this country.

The extension of the franchise in 1832, 1867, and 1884 added considerable impetus to the need both for the reform of L. G. and for the provision of new services.

Between 1818 and 1838 Parliament attempted to deal with the unsatisfactory public health conditions, and local sanitary boards were appointed to grapple with the problems.

In 1871 the L. G. Board was estab., a dept. of the central gov. charged with the control of public health and other L. G. matters, and it was not long before reforms were introduced.

Public health legislation was consolidated in the Public Health Act, 1875, and the powers and duties conferred by that Act were entrusted to the local sanitary boards and later, in 1891, these boards became the urban and rural dist. councils of the present day.

In the cos. justices of the peace had been responsible for many administrative duties connected with L. G., but the Local Government Act, 1888, stripped them of most of their L. G. powers and conferred them on new bodies called co. councils, constituted by that Act.

These co. councils, with few exceptions, exercised jurisdiction over geographical

cos., but some of the larger and more powerful tns. which were constituted co. bor. councils, that is, cos. in themselves, were excluded from co. council control.

Some years previously a consolidation Act, the Municipal Corporations Act, 1882, was enacted, amending and consolidating the law with regard to the constitution and administration of bors., including those bors. constituted co. bors. by the 1888 Act. The Local Government Act, 1894, completed the pattern by constituting the urban and rural sanitary dists. as urban and rural dist. councils. Thus was set the mould for the present organisation of L. G. The boards of commissioners were abolished, and their powers conferred on the new local authorities with the one exception, that boards of guardians were retained until the coming into operation of the Local Government Act, 1929. This latter Act was passed on the recommendation of the L. G. Committee appointed in 1918 to survey the whole position of poor law administration with a view to the spreading of the burden of poor relief over a wider area, and at that time administration was transferred to the co. bor. councils and the co. councils. A further change was made as a result of the National Assistance Act of 1948. Under this Act local authorities were relieved of responsibility for poor relief which was transferred to a National Assistance Board and administered as a state charge. Co. councils and co. bor. councils in England and Wales, and co. councils and large burghs in Scotland, were, however, given under this Act the task of maintaining residential hostels for the aged and of extending the welfare service for the physically disabled.

Some of the larger and anct. bors. have the title of a city, but this title has no real significance at law, as it is only one of courtesy conferred on the large co. bors., or bors. formerly the site of a cathedral or a seat of a bishop. For the purposes of the law relating to the L. G. structure, cities are either co. bors. or bors., and at the present day the title of city can be conferred by the king by letters patent.

During this time the sphere of L. G. had been increasing, and the new services imposed heavy financial strains, and as many of the services were matters of national as well as local interest, a system of gov. grants was introduced. Until 1929 these grants were made in respect of specific services and the percentage grant varied according to the attitude of the central gov. towards the service, but in 1929 the grants were consolidated in an ann. grant called the general exchequer contribution. In addition to the consolidation of the earlier grants, the general exchequer contribution, commonly called the 'block' grant, also included a contribution from the Exchequer to cover the loss occasioned to local authorities by the de-rating provisions of the 1928 and 1929 Acts which exempted from rates farm lands and buildings other than dwelling houses and

reduced the rateable value on which rates were paid in respect of freight transport and industrial hereditaments to one quarter. In 1947 the likehequer contribution amounted to £57,000,000 for England and Wales and £8,000,000 for Scotland.

The Local Government Act, 1948, abolished the general exchequer contribution, and replaced it with a system of equalisation grants paid in England and Wales to co. councils and co. bor. councils, and in Scotland to co. councils and large burghs, provided that their rateable value per head of pop. is below the average rateable value per head of pop. of the whole country. Authorities below this figure receive a grant sufficient to bring their rateable value per head of pop. up to the average, and authorities higher than the average receive no equalisation grant apart from a transitional grant to help tide over the first five years of the introduction of the new system, from April 1, 1948. The equalisation grant is exclusive of grants on certain specific services such as education, police, and fire, which still remain on a percentage basis. The main revenue for L. G. derives from the rates. In 1913-14 the total amount received by local authorities in England and Wales from the rates was £76,276,000. The amount rose steadily and by 1928-29 had reached £186,294,000. It then fell to below £150,000,000 during the next four years, but by 1939-40 it had reached the £200,000,000 mark. It then fell during the war years, but by 1945-46 was again well over the £200,000,000 mark. The following year it reached £239,000,000 and in 1947-48 nearly £280,000,000. In Scotland receipts from rates reach over £20,000,000. Formerly the valuation for rating purposes was the responsibility of the local authorities; under the Local Government Act of 1948 it was transferred to the Inland Revenue. In 1938 the total rateable value of all properties in England and Wales was about £311,000,000. Ten years later this figure had increased by about £25,000,000. The average rate per £ of rateable value also increased from 12s. in 1938 to 17s. in 1948, but the extension of the existing and the introduction of new services, together with the increased cost of living in the absence of a corresponding increase in the rateable value, have necessitated this increase in the rates in the £.

The Local Government Act, 1933, carried the reform of the L. G. structure a further step forward by consolidating the law with regard to the constitution and general functions of the various types of local authorities, namely co. councils, co. bor. councils, bor., urban, and rural dist. councils, par. councils, and par. meetings. This was apart from London, which had a similar consolidating Act in 1939.

Now, it is only necessary to go to those two Acts of Parliament for the purpose of ascertaining the constitution and general administrative organisation of local authorities. The powers and duties, with regard to the various services undertaken by local authorities are to be found in

other statutes, such as the Public Health Acts, 1875 and 1932, Highways Acts, 1835 and 1929, Education Act, 1944, and the Local Government Act, 1948.

The inter-war movement of pop. and the changing economy of the country as a result of the Second World War have again brought L. G. under review, and the Local Government (Boundary Commission) Act, 1945, appointed a commission to review the whole structure of L. G. and its areas. The commission were empowered to make orders subject to confirmation by Parliament, for the purpose of establishing convenient and economic units of L. G. The commission consisted of five commissioners, and many eminent L. G. officers acted as assistant commissioners, and reports were pub. in 1947, 1948, and 1949. These reports contained recommendations dealing with the merger of certain co. councils, the constitution of a number of other co. councils for certain urban conurbations, the loss of co. bor. status for some existing co. bors., which it was proposed should become part of the co. organisation; but in 1949 the gov. decided to repeal the 1945 Act and do away with the commission. The gov. indicated that it was proposed to undertake a thorough review of the whole structure of L. G. with a view to introducing a comprehensive scheme for its reorganisation, and while no indication has been given as to what is intended it would appear that any proposals put forward must have regard to the findings of the L. G. Boundary Commission.

LOCAL GOVERNMENT IN ENGLAND AND WALES.—For purposes of L. G. England and Wales are divided into administrative cos. (62, including London) and co. bors. (83). The administrative cos. are further divided into non-co. bors. (309), urban dists. (572), and rural dists. (475). The rural dists. are divided into pars. controlled either by a par. council or by a par. meeting. Rural pars. having a pop. of more than 300 must have a par. council and rural pars. having between 200 and 300 pop. may require the co. council to establish a par. council, and below 200 pop. the co. council have a discretion as to whether or not a par. council is estab.; otherwise rural pars. with pops. of less than 300 are controlled by a par. meeting. There are 7000 rural pars. with par. councils and over 4000 controlled only by par. meetings.

The par. was an early unit of L. G. and was used for the purpose of implementing the Poor Law Act of 1801. Co. bors., bors., and urban dists. usually consist of more than one par., but there are no separate par. councils or par. meetings for the conduct of L. G. affairs, the control of these being vested in the co. bor., bor., or urban dist. council.

Broadly speaking, ignoring the co. bors., local administration is divided into cos., each governed by an elected co. council, and the cos. are divided into urban and rural co. dists., the former, as the name indicates, being those dists., urban in character, that is tns., and those are governed by bor. councils or by urban

dist. councils. Rural co. dists., as the name indicates, cover the rural areas of the co., that is the areas outside the tns., and these areas usually consist of a number of vils. The rural dist. is governed by a rural dist. council, but as the area is usually large it is divided up into pars., in most cases based on the vils., and those pars. are controlled by par. councils or by par. meetings.

Co. bor. councils stand apart from the co. councils as they are hors. which have been granted the status of co. councils for the area of the bor.

Present-day local authorities are general or 'omnibus' authorities. They are not designed to carry out only a specific service but they are bodies to which can be entrusted the carrying out of a number of services, the powers and duties in relation to those specific services being conferred by Acts of Parliament.

Qualifications of Local Government Electors and Councils.—The Representation of the People Act, 1948, has merged the par. and L. G. franchise so that all Brit. subjects over the age of twenty-one who are resident in the area on the qualifying date are entitled to be registered and vote as L. G. electors for that area. In addition there is a non-resident qualification for the purpose only of L. G. elections. Persons over the age of twenty-one years registered as electors or qualified to be registered as electors, with the exception of aliens, convicts, and adjudicated bankrupts, are eligible for election to the office of councillor. Co. council elections are held in April; co. bor. and bor. elections in May on a day which is the same for the whole of the country, and urban and rural dist. council elections on a day in May fixed by each co. council.

The Parish.—The L. G. unit known as the civil par. must be distinguished from the eccles. par. Originally their areas were co-terminus, but a series of statutes have made many alterations.

England and Wales are divided into civil pars. (urban and rural) for rating purposes, and these are the successors to the poor law pars. of Elizabethan days. The old parochial vestries have now lost all their L. G. functions, but still manage church matters, church property, and eccles. charities.

In urban areas the par. has now lost its significance in L. G. matters, but it is still an important L. G. unit in the rural areas.

The par. meeting consists of a meeting of all the L. G. electors for the par., and where there is no par. council the meeting must meet twice each year. The par. council consists of from five to fifteen members elected either at the par. meeting or, by order of the co. council, in the same way as councillors are elected to other local authorities. The chairman of the par. meeting is chosen by the meeting, but the chairman of the par. council is elected annually by the par. council from among its members, or from persons qualified to be councillors. Par. councillors hold office for three years, all retiring together. In every par. there must be an ann. par.

meeting and where there is a par. council the chairman of the par. council presides at the par. meeting. Decisions at par. meetings are taken by a show of hands, but five electors or one-third of those present at the meeting, whichever is the less, can demand at the meeting a poll of the par.

Where there is no par. council property is vested in the 'representative body' of the par., that is, the chairman of the par. meeting, and the member or members elected to the rural dist. council by the par. There must be two persons, and if the chairman and member of the rural dist. council are the same person, then the rural dist. council appoint a L. G. elector as the second member of the 'representative body', and on the direction of the par. meeting the 'representative body' may execute documents under seal. Where there is a par. council it is incorporated and its acts may be signified under the hands of, or if a seal is required under the hands and seal of, two members of the council. It manages secular parochial lands or buildings, provides a par. room or offices, and takes custody of all secular par. monuments of title. It can, with the par. meeting's consent, adopt the adoptive or permissive Acts for the provision of baths and washhouses, public libraries, and the making of public improvements. It can purchase compulsorily, with the consent of the co. council, land for the purpose of allotments, or hire land on the same terms, and if the co. council refuse their sanction can get permission from the Ministry of Health (*q.v.*, and see LANDS (LACHES ACTS; LANDLORD AND TENANT)). The sums required to meet the expenses of a par. council (other than expenses under the Adoptive Acts) may not, without the consent of the par. meeting, exceed an amount equal to a rate of 1/10 in the £ or such higher rate, not exceeding 8d., as the minister of health may allow; and a par. council cannot, without the consent of the par. meeting, and the approval of the co. council, incur any liability which would involve a loan. A par. council can provide recreation grounds and public walks; utilise any well, spring, or stream for the welfare of the inhab. (but not so as to interfere with private rights); drain and cleanse any stagnant pool, ditch, or pond; give its consent to the closing or diversion of highways (*q.v.*), and acquire by agreement a right of way.

Rural District Councils.—A rural dist. council is a body corporate with a common seal, consisting of a chairman and councillors. The councillors are elected for a period of three years and either one-third retire each year, or all retire together at the end of three years. The chairman is elected annually by the councillors and must either be a councillor or be eligible for election as a councillor. He is *ex officio* a justice of the peace for the co. during his period of office as chairman, and the council may pay to him, for the purpose of enabling him to meet the expenses of his office, such allowance as the council may think reasonable. The council is

required to appoint a clerk, a treasurer, a surveyor, a medical officer of health, and a sanitary inspector or inspectors, and such other officers as the council think necessary for the efficient discharge of the functions of the council. The council is required to meet four times each year, the ann. meeting being held in May. The main function of the council is the administration of the Public Health Acts, or Acts of a similar purpose. In this connection their duties consist in taking steps against the spread of infectious disease by enforcing the disinfection of houses and clothing; in regulating the carrying on of noxious trades, e.g. blood boilers, manure manufacturers, and tallow melters (see also FACTORY AND WORKSHOP ACTS); in forcing any householder whose house is within 100 ft. thereof to connect his drain with the main sewer; and generally in administering the Acts relating to dairies, factories, workshops, laundries, canal boats, cremation, alkali works, and brine pumping. (As to their powers see HOUSING ACTS.) They have extensive powers for supplying water within their dists., and may purchase or buy out existing water companies, and must provide and maintain sewers. (For their powers and duties in regard to highways see under HIGHWAYS.) They have supervisory powers over light railways; protect roadside wastes and rights of common; purchase land by agreement for allotments on the representation of the par. council; and proceed against persons or bodies for pollution of rivers. (If by factories or mines only with the consent of the Ministry of Health). They may make by-laws relative to the maintenance of public health, new street construction, erection of buildings, and removal of nuisances (as to relaxation of existing by-laws for the purpose of housing schemes see HOUSING ACTS); all by-laws require to be duly advertised and sanctioned by the Ministry of Health. Formerly the general expenses of a dist. council were paid from a fund to which the various pars. contributed, but the Rating and Valuation Act of 1925 provided for these expenses to be paid out of a consolidated general dist. rate. The dist. council may borrow for various purposes with the sanction of the Ministry of Health on the security of the rates. The council acts as rating authority for the rural dist.

Urban District Councils are similarly constituted to rural dist. councils, and they possess similar functions to the rural dist. councils, being bodies corporate with a common seal; but in some matters their public health powers are wider, and also they are highway authorities for dist. roads, and in many cases for classified roads, either as appointed by statute or by agreement with the co. council. Urban dist. councils are required to appoint similar officers to rural dist. councils. The constitution of urban dist. councils, including the election of chairman and councillors, is similar to that of rural dist. councils, and an allowance can be paid to the chairman of the council to meet the expenses of his office. The chairman of

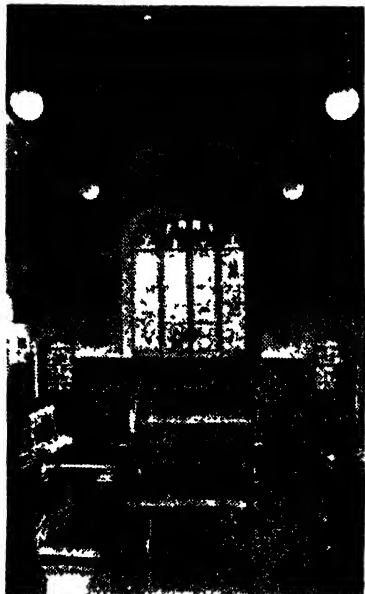
the council is an *ex officio* justice of the peace for the co. during his period of office.

Borough Councils.—The most self-contained and compact unit for L. G., and indeed civic life generally, are urban dists. which have been incorporated by royal charter. The 'body corporate' consists of the mayor, aldermen, and burgesses, the latter term representing the L. G. electors of the bor., whereas in urban and rural dists. it is the council which is incorporated. However, a bor. can only act through its council, consisting of the mayor, aldermen, and councillors, and therefore the distinction is more apparent than real. The mayor is elected annually from among the members of the council or persons qualified to be councillors, and during his year of office and one year afterwards he is an *ex officio* justice of the peace for the bor. The mayor takes precedence in the bor. and presides at council meetings, and the council may pay to the mayor such remuneration as they think reasonable.

The aldermen constitute one-third the number of councillors, and hold office for 12 years, half retiring every three years; they are elected by the councillors either from the councillors or from persons qualified to be councillors. Aldermen cannot vote in the election of aldermen. The councillors are elected by the burgesses for periods of three years, one-third retiring annually; if the bor. is divided into wards then the number of councillors representing each ward is divisible by three.

The bor. council is required to appoint a (n. clerk, a bor. treasurer, a bor. surveyor, medical officer of health, and sanitary inspector or inspectors, and such other officers as the council consider necessary. Some bors. have their own police force, when they must appoint a watch committee and a bor. constable, while for others the police authority is that of the co. The bor. council must meet at least quarterly and the ann. meeting is held in May, after the elections held in the same month. Many bors. possess a quarter sessions court (see COUNTY SESSIONS), the advantage in such cases being that the bench is presided over by a trained lawyer selected by the home secretary, instead of by a bench of laymen. Nearly all bors. of any importance have a separate commission of the peace with power of appointing magistrates; those not so favoured are under the co. justices appointed by the lord chancellor. Some bors. also have a stipendiary magistrate appointed on the advice of the home secretary. Stipendiary magistrates act in the Metropolitan police courts outside the city of London; they may also be appointed for any urban dist. with a pop. of 25,000. The quarter sessions of London co. are presided over by a chairman or deputy chairman, whose salary is paid by the co. council, which latter body is responsible for the expenses of prosecution in cases of felony; in co. bors. the tn. council is liable for such expenses. The council of a bor. having its own quarter sessions, which is either a co. bor. or received its

grant of quarter sessions prior to the Local Government Act of 1888, must appoint a coroner. In other dists., including the co. of London, inquests are held by the coroners appointed by the co. council. Small bor., with less than 10,000 inhab., must keep their bor. sessions and magistrates' courts if they possess such courts, and also contribute to the court of quarter sessions for the co. Generally speaking bor. councils have all



Norwich Corporation

THE GUILDHALL, NORWICH

The council chamber used for meetings of the City Council, 1407-1938.

the powers and are subject to all the duties of an urban dist. council, but over and above these they have additional powers in regard to explosives, fish conservation, inebriates, local stamps, industrial schools, asylums, motor-cars, weights and measures, and the Riot Damages Act. They also enjoy the privilege of making by-laws for the good rule and gov. of the bor., and for the suppression of nuisances not already punishable summarily by virtue of any Act in force within the bor.; though all such by-laws must be approved by the Home Office. The observance of these by-laws can be enforced by a fine not exceeding 4s. but not before they have been publicly promulgated for forty days in the manner prescribed by statute. Many bors. are justly proud of an exalted historic dignity, and can look back on an unbroken corporate life of over a thousand years. Others, however, have but recently

acquired that character by petitions referred to a committee of the privy council. As a rule the privy council do not recommend the issue of a charter to a tn. the pop. of which is less than 20,000.

County Borough Councils.—There are some eighty-three tns., each of which by virtue of having a pop. of 50,000 or upwards in 1888, or being an anct. L. G. co., is called a co. bor. Their councils are vested with the powers of co. councils and they are independent in most matters of the administrative cos. in which they are situated. They are governed by the general law applicable to bors., and their constitution is exactly the same.

The Local Government Act, 1888, constituted a number of co. bors. and other bors. were enabled to attain co. bor. status when they reached that pop., but in 1926 the pop. figure was raised to 75,000 and now the figure of 100,000 has been laid down. Bor. councils of this pop. figure can obtain the status of a co. bor. by private Act of Parliament.

London District.—London is, on a special footing. It is divided into the city of London, the authority for which is the unreformed corporation of common council, and twenty-eight metropolitan bors., including the city of Westminster, which were the creation of the London Government Act, 1899, and are governed by bor. councils. The entire area constitutes the administrative co. of London, the controlling authority of which is the London Co. Council.

County Councils.—The administrative co. does not necessarily coincide with the geographical co., as co. bors. are excluded, and also some geographical cos. have more than one co. council, e.g., Yorkshire is divided into three Ridings.

The co. council is a body corporate, consisting of a chairman elected annually by the council, either from the members of the council or persons eligible for election as councillors. He presides at meetings of the council and is *ex officio* a justice of the peace for the co., and may be paid such remuneration as the co. council think reasonable. The other members of the council are the aldermen and councillors, and the aldermen constitute one-third of the number of councillors, and are elected by the council from members of the council or persons eligible to be councillors and hold office for six years, half retiring every three years. An alderman cannot vote in the election of aldermen. Co. councillors are elected for three year periods by the L. G. electors, and retire simultaneously in the month of April. The co. council is divided into polling dists. and one councillor is elected for each polling dist.

The co. council is required to appoint a clerk of the council, who is usually also the clerk of the peace for the co., a co. treasurer, a co. surveyor, a co. medical officer of health, and other officers. The co. council carries out many important functions relating to public health, education, highways, small holdings, planning, fire and ambulance, libraries, food and drugs, etc., but some of these services are under-

taken by co. dist. councils by delegation from the co. council. Co. councils are responsible for classified and dist. roads in rural dists., but in bor. and many urban dists. the co. dist. councils are responsible, not only for the dist. roads, but for the maintenance of classified roads within their areas, either as authorities under the Local Government Act, 1929, or as delegated authorities by the co. council. The administration of the police force in the co. is exercised jointly with the justices of the peace in quarter sessions, the controlling body being known as the standing joint committee, consisting of equal numbers appointed by the co. council and the justices in the quarter sessions. The co. area is divided into petty sessional divs. for the administration of justice.

By virtue of the Local Government Act, 1948, members of local authorities other than par. councils may receive payment by way of (a) financial loss allowance where loss of earnings or additional expense (other than expense on travelling or subsistence) is necessarily incurred and (b) travelling allowance and subsistence allowance where expenditure on these items is necessarily incurred in the performance of any approved duty subject to maximum payments laid down by the minister of health. Records of payments may be inspected by electors.

Local Education Authorities.—The school boards created by the Elementary Education Act of 1870 gave place to the committees of tn. and dist. councils. Under the Education Act, 1902, the local education authorities were co. councils and bor. councils and in dists. of over 20,000 pop. the urban dist. councils. Under that Act the local education authority was empowered to promote higher as well as elementary education. The Act also enabled the education authority to establish education committees, constituted in accordance with a scheme made by the council, and approved by the Board of Education. The Education Act of 1918 varied and extended the powers and duties of Local Education Authorities (L.E.A.), and the questions of law concerning public education were consolidated by the Act of 1921. Under the Education Act of 1944 the Board of Education gave place to the newly created Ministry of Education, and the L.E.A. were confined to the co. councils and the co. bor. councils, with some few exceptions in the case of bors. and urban dists. with pops. of 60,000 or more. The urban dist. councils therefore lost the educational responsibilities granted to them under the 1902 Act. The co. councils were, however, empowered to delegate their functions to co. dist. councils set up for the purpose. The aim of this change in administration was to provide a more comprehensive system of primary and secondary education, both following a common interrelated policy. The L.E.A. under the 1944 Act were given responsibility for primary and secondary education extended up to the age of sixteen through the medium either of co. schools or of

voluntary schools which may be either controlled by the L.E.A. or aided. They are also required to provide education for persons over the age of sixteen by means of co. colleges and other institutions for commercial, technical, and art education. Special schools for the education of children with mental or physical disabilities were also put within the sphere of the L.E.A. (See under EDUCATION.)

LOCAL GOVERNMENT IN SCOTLAND.—The Scots L. G. law, like the Eng., is almost wholly statutory, and the main organs of administration are almost identical. Scotland was formerly divided into parrs. for purposes of public assistance and education, and into burghs and cos. for all other purposes of L. G. The Local Government (Scotland) Act, 1891, like the Eng. Act of the same date, re-adjusted the boundaries and relations of the various existing local bodies, and created new local bodies and a new central authority, the par. council superseding the parochial board and the L. G. Board (Scotland) the old Board of Supervision. In 'mixed' parrs. (partly urban and partly rural) a landward committee was appointed, composed of par. councillors elected for the rural wards. The urban par. councils' functions were practically confined to the administration of the poor law, but rural par. councils and landward committees exercised many of the functions of a tn. council. Under the Local Government (Scotland) Act of 1929, the par. councils were abolished. Under this Act local administration was divided between the co. councils (33), estab. in 1839, the burgh or tn. councils (195)—royal burghs (67), parls. (13), and police burghs (115)—and the dist. councils (199).

Royal burghs are those incorporated by royal charter, while parl. burghs are those created by the Reform Act of 1832, having the right to send members to Parliament. Police burghs are all other burghs with a pop. of 700 or more. The royal and parl. burghs are the Scottish equivalent of the Eng. co. bors., and the police burghs of the urban dists. and non-co. bors. The Act of 1929 transferred the function of maintaining a police force to the co. councils, except in large burghs, i.e. those with a pop. of 20,000 or more which appoint their own police forces. The tn. council of a burgh consists of the provost, bailies, and councillors. The provost, who is elected for three years, is the equivalent of the mayor in England and Wales, while the bailies, also elected for three years, are the equivalent of aldermen. The councillors are elected for three years, one-third retiring each year. The chief duties of a tn. council are those relating to public health, the maintenance, cleaning, and lighting of streets and footways, the maintenance of parks and public gardens, public libraries, and other public buildings, also sewernage, drainage, and the provision of a water supply. The tn. councils, except in large burghs, are not responsible for public assistance, which by the Act of 1929 was vested in co. councils. The tn. councils were made the rating authority for the burgh by the Rating (Scotland)

Act, 1926. Under this Act and the Local Government (Scotland) Act of 1929 all rates were leviable as one rate known as the consolidated rate of the area, but water rates continued to be leviable separately. All the money raised by the consolidated rate and other revenues of the rating authority are paid into 'the burgh fund,' and the expenditure of the tn. council payable out of the rates for each branch is defrayed out of this fund. Except where otherwise expressly provided all rates are payable by owners and occupiers in equal proportions.

The co. area for L. G. purposes is, generally speaking, the geographical co., excluding the royal and parl. burghs. Some smaller burghs and police burghs are, however, included in their cos for certain purposes and autonomous for others. Scots co. councils hold three statutory general meetings annually, but generally all the powers, except that of raising money, are delegated to committees. The functions of the co. councils are generally derived from the Local Government Acts of 1889 (under which the councils took over the administrative duties of the justices of the peace, and superseded the old Commissioners of Supply for all purposes except the management of the co. police force and the control, capital expenditure, and borrowing), 1894 (enabling co. councils to make orders for purchasing land, adjust or define the boundaries of par. wards, and entertain representations by par. councils as to leasing land for allotments, and as to lighting, scavenging streets, and maintaining baths and wash-houses), and subsequent Acts. The Commissioners of Supply were entirely superseded by the Act of 1929. Under this Act the par. councils and dist. boards of control were abolished, and their functions transferred to the co. councils, which were, with the approval of the secretary of state for Scotland, empowered to set up dist. councils to act as their agents. The co. councils were also, under the same Act, empowered to create standing committees for the exercise of their functions in regard to the police and in the administration of the poor law. The council also appoints a co. road board to control highways under its authority, but the detail of local maintenance is delegated to dist. committees. The council's powers over roads extend only over country roads, and those roads in small burghs which are classified as co. roads. The councils also exercise such powers under the Public Health Acts as were prior to 1889 exercised by the old parochial boards. In most other respects their powers are assimilated to those of independent tn. councils, and they may make a general assessment for public purposes, and levy a general purposes rate for any object not covered by any special rating statute.

Up to 1918 the local authority for education in Scotland was the parochial school board, which enjoyed compulsory powers for providing school premises and for continuation classes. But the Scottish machinery of educational adminis-

tration was reorganised by the Education (Scotland) Act of 1918 under which the school boards were abolished. Edinburgh, Glasgow, Aberdeen, Dundee, and Leith were left as separate educational areas (Leith has since been amalgamated with Edinburgh), but outside these four burghs the administrative area is the co. Most of the voluntary or denominational schools have been transferred to the education authority, an effective body, which delegates certain limited powers to school management committees.

LOCAL GOVERNMENT IN NORTHERN IRELAND.—The machinery for L. G. in N. Ireland is the same as in England and Wales, except that the function of the Board of Guardians in administering poor relief survives and has not as in England and Wales been transferred to the co. council. There are six co. councils and two co. bor. councils possessing the same powers and independent of each other. The non-co. bor. councils (5) and the urban dist. councils possess the same powers and have the normal responsibilities, being the rating authorities for their areas. The rural dist. councils (32) have those powers of the urban dist. councils applicable to rural areas, but have no power to levy rates.

LOCAL GOVERNMENT IN THE UNITED STATES.—The unit of L. G. in the N., especially in the New England states, is the rural township, governed directly by the voters, who assemble annually, or oftener if necessary, and legislate in local affairs, levy taxes, make appropriations, and appoint and instruct the local officials (selectmen, clerk, school committees, etc.). Where cities exist the township government, is superseded by the city government. Some 720 cities have 'city managers,' in whom are vested large executive powers. Townships are grouped to form cos., each with its commissioners and other paid officials who have control of public buildings, lay out highways, grant licences, and estimate and apportion the taxation necessary for co. purposes. In the S. the cos. are themselves the units of L. G., though subdivided for educational or other special purposes. In the middle and N.W. states the two systems are mixed.

For L. G. in other foreign countries see under the names of countries.

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Local Government Board, see HEALTH, MINISTRY OF.

Local Option, or Local Veto, phrase used in political circles to denote the power extended in some countries to the electorate of specified dists to determine for themselves whether lic. ea. all liquor shall be allowed to be granted or not. This privilege exists in Canada and in Australia (see LIQUOR CONTROL) and is generally known as local prohibition. The only power in any way analogous to L. O. in England is that of the justices at Brewster sessions to refuse to grant or renew licences to obtain liquor licences. But the power or discretion is a strictly limited one (see LICENCES AND LICENSING LAWS). The one determined effort made to introduce such a system in England was in 1895 when Sir Wm Harcourt (then Chancellor of the exchequer) introduced his Intoxicating Liquor Traffic (Local Control) Bill. The idea underlying this Bill was that, if in a certain per two-thirds of the ratepayers voted for the prohibition of the granting of licences the votes should operate against the granting of all retail licences.

The principle of L. O. obtained before the First World War in Sweden and Norway, but in 1917 Norway resumed the sale of spirits which had been prohibited in 1916. It is a moot point whether reforms in those countries are to be traced to that system or to the co-existing 'Gothaburg' or company system. Under this system (called *Bolag* in Sweden and *Samlag* in Norway) the municipal authority is empowered to limit the number of licences and to sell them to a company formed *ad hoc*. This system applies exclusively to spirits, which, however, have always been the national drink. By 1906 about 100 tns in Sweden and 30 in Norway had adopted the system. L. O., however, was readily embraced in rural dists. in Sweden, where most of the people live, and it certainly produced good results. The power of local prohibition was introduced into Canada by the 'Scott Act,' and has been widely applied, though Ontario has since returned to 'wet' conditions. In Australia only Queensland has adopted L. O. and even that state has not applied it, while the other states either

have a limited kind of veto as to new licences or L. O. to reduce those existing. In Scotland under the Temperance (Scotland) Act, 1913, electors in moderate-sized dists are empowered to decide on the number of licences in their locality, and a requisition for a poll must be signed by at least 10 per cent of the electors. A resolution to limit licences must be passed by a resolution of 50 per cent of the electors while a majority of 50 per cent of the people can resolve to have no licences at all. But no poll was to take place till 1917, nor any house closed till 1918. The L. O. powers came into operation in June 1920. Out of 584 areas abolition of public houses was voted in forty. In the third poll, in 1926, no new areas secured a no licence order and the number of places 'dry' to day is but nominal. See *Parliamentary Debates* (vol. xxxii) 189, and E. A. Pratt, *Licensing and Temperance in Sweden, Norway, and Denmark*, 1907.

Local Rank see TEMPORARY RANK.

Local Taxation Grants, or grants in aid of local government expenditure. The list of grants in aid for local government dates from 1883; the local authorities receiving an annual grant towards their expenses in dealing with prisoners while prison administration remained under the partial control of the local authorities down to 1877. With the transfer of the prisons to national control this grant came to an end, but it was not till 1919 that the whole costs of the local police forces were subsidised to the extent of one half out of national funds; the grant for that purpose having been increased from 25 to 50 per cent as far back as 1874. Sir Robert Peel who was a strong believer in grants in aid for local government initiated a national grant towards poor law administration in 1846. Public health came within the sphere of grants in aid in 1872 when a grant was made in respect of sanitary inspectors. Peel wanted to extend the system to the upkeep of the main roads of the country, but it was not till Gladstone's time that the Commons agreed to paying a subsidy of £2,000,000 for this purpose (1852). With the institution of schools run by local authorities in 1870 the system of grants was applied to this branch of local government. By the end of the nineteenth century the grant in aid had thus been extended to the departments of education, police, poor law, public health and highways. New grants were added in respect of the treatment of mental deficiency in 1913, maternity and child welfare in 1915 and venereal disease in 1916 whilst the grants towards police and highways were extended in 1913 and 1923 respectively. This accumulation of grants was welcomed by some as a means of strengthening central control, as well as providing assistance to needy areas, but others condemned the system as tending to weaken local responsibility. Gladstone declared the whole system to be a vicious one and wanted to impose severe limits to future expansion. In 1889 when the new local councils were being established (Local Government Act, 1888) Goschen,

the chancellor of the exchequer, introduced a system under which certain taxes were earmarked for feeding the grants to local authorities, whilst future expansion of subsidy was to be limited to the amount of the increase in the product of these taxes due to the expansion of national trade. Under the Goschen system the 'assigned revenues' included all the little licence duties, e.g. for the sale of beer and wines, keeping of dogs, selling game, use of armorial bearings, and a sum equivalent to 10 per cent of probate duty on inherited estates. A further administrative change simplified the work of the central depts. by arranging for the payment of the grants not, as formerly, direct to each spending authority, but to the co. councils and the co. bor. councils, the cos. passing the money on to their constituent authorities. But the hope of calling a halt to future increases was dispelled in 1890 with the growing demand for secondary and technical education, and the 'assigned revenues' were increased by the imposition of new taxes on beer and whisky 80 per cent of the yield being allotted to the local authorities, whilst further grants were allocated for police pensions. But there followed a check on further advances for the next twenty years, though, under the surface of reaction, movements were developing which pointed to future changes conformably with the expansion of local gov. activities. In 1897 a royal commission was appointed to consider the whole system of imperial and local taxation, and it reported in 1901 in favour of considerable increases of grant for those services which were of national as distinct from purely local importance, i.e. poor law, education, police, and main roads. No action was taken, but ten years later a departmental committee of the Treasury reconsidered the whole question, and in 1914 drew up a scheme of classification of local services into national, semi-national and purely local services, assessing and allocating each particular grant on the basis of a block grant in accordance with the views of the minority report of the antecedent royal commission. Yet nothing was done to effect wholesale reform until 1929, when a revolutionary change was made in the grant system by the estab. of a formula for future assessment and apportionment.

The grants, with the exception of those in respect of education, police, and housing, were consolidated in the general exchequer grant, and a detailed formula was used for the distribution of this block grant, which was designed to benefit the poorer dists. The immediate cause of this overhaul of the grant system was the de-rating provisions of the Local Government (De-rating) Act, 1929, which would have involved the local gov. services in an enormous loss of revenue if it had not been also provided that the deficit should be made up by grants from the exchequer; and the occasion of the big transference of the burden from the farmers and industrialists involved under the above Act to the gov. funds was

utilised for a thorough examination of the whole system under which the various grants in aid were issued (*see also* De-rating). The Local Government Act, 1948, has replaced the general exchequer grant with an equalisation grant as from April 1, 1948, and this is distributed on a different formula even though it has the same objects as the earlier grant. Co. and co. bor. councils, with a rateable value per head of pop. below the average for the country receive a grant sufficient to compensate for their failure to reach that figure. Those above the average receive no grant other than a small transitional grant for five years. Co. councils distribute a proportion of the grant to the co. dist. councils. *See* bibliography for LOCAL GOVERNMENT.

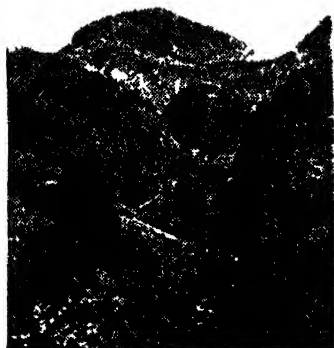
Locarno, or Luggarus, tn. of Ticino, Switzerland, on Lago Maggiore (N.), 10 m. S.W. of Bellinzona. It is situated on the St. Gothard route. The church of Santa Maria del Sasso, founded in 1569, is a place of pilgrimages. Pop. 4000.

Locarno Conference and Treaties (1925). The L. T. represented an attempt to supplement the covenant of the League of Nations (*q.v.*) after the rejection of the protocol for the Pacific Settlement of International Disputes (1924). They purported to meet the Fr. demand for security, while at the same time involving Great Britain in only the most specifically limited obligations. The Locarno agreements comprised a treaty of mutual guarantee between Germany, Belgium, Great Britain, France, and Italy, arbitration conventions between Germany and Belgium and Germany and France, and arbitration treaties between Germany and Poland and Germany and Czechoslovakia. At the conference the first difficulty arose out of the question whether the Three Power Pact of Security, proposed between Great Britain, France, and Belgium, was to be bilateral or unilateral in character; Fr. opinion interpreted the guarantee of the 'present territorial status on the Rhineland' as a guarantee of Fr. and Belgian frontiers from Ger. attack, but Austen Chamberlain, for Great Britain, contended that the pact was a guarantee equally that the Rhineland frontiers should not be violated by France. In the course of this discussion came Germany's offer to join in a larger pact or treaty of mutual guarantee, signed by five powers, and, in the result, the obligation was made bilateral. The intention of Germany was to limit the pact to the Rhineland frontiers, but as regarded the E. she was only prepared to enter into arbitration treaties, and would not promise to maintain perpetually the territorial settlement on the E. The Brit. Gov., for its part, declined to enter openly upon obligations as guarantor of the territorial settlement elsewhere than on the Rhineland, whereas Briand, for France, saw no distinction between E. and W., and insisted that Fr. security could be guaranteed only by permanence of the E. settlement. In the result a compromise was arrived at to meet the Fr. demand, while limiting the Brit. obligations, France

being given an opportunity of claiming the right to assist Poland in the event of a breach of the Polish-Ger. arbitration treaty. An important article of the treaty of guarantee was that which provided that neither the obligation nor the right to take up arms would arise until negotiations for pacific settlement had been tried and failed; but the parties had the right to take immediate action against an aggressor in certain events, as, for example, in the case of an unprovoked act of aggression or by the assembly of armed forces in the demilitarised zones. Finally an important outcome of the conference was the admission of Germany to the League of Nations, and it was provided that the new engagement should come into force only when Germany had become a member. At the time of their conclusion it was widely believed that the L. T. were an effective instrument for peace in Europe, though critics (the so-called 'Isolationists') erroneously assumed that if Britain undertook no commitments or obligations to aid an attacked power, she might escape being involved in another European war. But the L. T. themselves had no inherent efficacy in bringing about the requisite contacts between govts., any more than had the League of Nations. But for some years the Fr. and Brit. Govs. refused to be disillusioned and the Brit. Gov. supported Barthou's (q.v.) proposals for an E. Locarno pact, both powers believing that these proposals would strengthen the collective system of the League and bring about Russian membership. One fundamental weakness of the L. T. lay in the E. compromise, for it should have been obvious that Germany would never accept, for all time, the Versailles territorial settlement interposing the Polish corridor between E. and W. Prussia and, in the event of a conflict over this question, it was difficult to see how Britain could avoid being drawn into war. In 1935 the Brit. Gov. discussed strengthening the Locarno Pact so as to make it specifically applicable to air attacks, but Germany refused (1936) to join in negotiations for such a pact, using the impending conclusion of the Franco-Soviet pact as a justification for denouncing the L. T. and thereafter proceeded to assert her unrestricted sovereignty over the demilitarised zone of the Rhineland, in token whereof Ger. troops had already been drafted in large numbers into that dist. Thus contrary to the Rhineland agreement empowering France to refer such questions to the League the Ger. Gov. penetrated the Rhineland *ins. so* as to present the other govts. with a *fait accompli*. Thus disappeared both the letter and the spirit of the short-lived L. T. See K. Strupp, *Das Werk von Locarno*, 1926; H. J. Ralston, *International Arbitration from Athens to Locarno*, 1929; Viscount d'Abernon, *Memoirs*, 1930; and A. François-Poncet, *Souvenirs d'une ambassade à Berlin*, 1946.

Loch, Henry Brougham, first Baron (1827-1900), Brit. administrator, b. at Drylaw, Midlothian. He served in the Sudan campaign of 1845, and throughout

the Crimean war in 1854. Dispatched on a special mission to China, he was, together with a small band, treacherously seized by Chinese officials while returning from Tung-chen, and endured terrible imprisonment for three weeks. The hardships he suffered left a mark on him all his life. In 1861 he quitted the army and became private secretary to Sir George Grey, secretary of state at the Home Office. From 1863 to 1882 he was governor of the Isle of Man. In 1884 Gladstone sent him to Australia as governor of Victoria, an office he filled for five years. In 1889 he became governor of the Cape and high commissioner in S. Africa, the most striking incident of this part of his career being his mission to Pretoria in 1891. He left Africa in 1895 and returned to England, when he was raised to the peerage.



British Railways

LOCHABER: THE HEAD OF GLEN NEVIS

Lochaber, wild, mountainous dist. of S. Inverness-shire, Scotland, with beautiful glens and moors, near Lochs Linnhe, Leven, and Eil. In 1926 was begun the L. hydro-electric power scheme. Two main dams contain the waters of Loch Treig and Loch Laggan, and it is conveyed by a 15-m. tunnel, the largest in the Brit. Empire, to a power plant at Fort William. The total catchment area is 300 sq. m. and the plant has a potential h.p. of 100,000. The power is used for the manuf. of aluminium in electric furnaces.

Loches (anc. Leuces), tn. in Indre-et-Loire dept., France, on the Indre, 23 m. S.E. of Tours. It has an old fifteenth-century castle and fortress within which is the tenth-century church of St. Ours. Beaulieu abbey is across the riv. There was a Rom. settlement at L. Pop. 3500.

Lochgelly, police bor. of Auchtermerran par. and tn. of S.W. Fifeshire, Scotland, 7 m. N.E. of Dunfermline. It has coal-mines, iron works, and blast furnaces. Pop. 9,200.

Lochleven, see **LEVEN**, **LOCH**.
Lochmaben, royal and police bor. of

Dumfriesshire, Scotland, 8 m. N.E. of Dumfries. In Castle Loch are the ruins of L. Castle, the traditional bp. of Robert Bruce. Pop. 2500.

Lock, Matthew, *see* LOCKE.

Lock is used, in its original sense of an enclosure or barrier, for a length of water in a riv. or canal enclosed at both ends by gates, the 'L. gates,' and fitted with sluices to render possible the raising of vessels from a lower to a higher water level or the reverse. *See* CANAL.

Lock, *see* GUN.

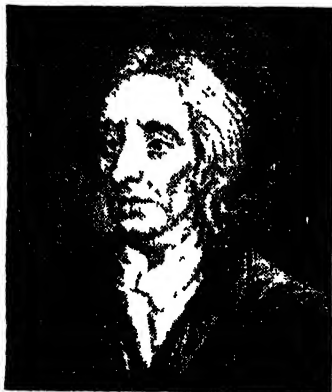
Locke, John (1632-1704), Eng. philosopher, b. at Wrington in Somerset. L. was at Westminster School from 1646 to 1652, when he entered Christ Church, Oxford. After taking his M.A. in 1658 he became a tutor of Christ Church in Gk. and philosophy. He early showed a dislike for the scholasticism of men like John Owen, the Puritan dean of Christ Church, and, though inclined towards an eccles. career, became interested in experimental inquiries, and for a time practised medicine in Oxford, though he never took his doctor's degree. During the summer of 1666 he met Lord Ashley, afterwards earl of Shaftesbury, and later became his confidential secretary, remaining with him for fifteen years.

While Shaftesbury was in power L. was appointed secretary of the board of trade (1672), but on Shaftesbury's fall in 1675 L. was deprived of office and of his Oxford studentship, and was obliged to find a retreat abroad. At Montpellier and Paris he devoted his time to study and writing. In 1679, Shaftesbury having been restored to power, he returned to England, and, though he took no part in the political plots of the following years, he was under suspicion as the friend of that prominent statesman. In 1683 he withdrew to Holland, which was then the refuge of many men who were not allowed freedom of thought in their own country. After the revolution of 1688 he returned to England, and was rewarded with a commissionership of appeals. L. now appeared, late in life, as an author, and won European fame. In 1689 his *Epistola de Tolerantia*, dedicated to Limborch (q.v.), the champion of Liberal theology in Holland, was trans. into Eng., and was followed in 1690 by *Two Treatises of Government* and the *Essay concerning Human Understanding*. The *Letter on Tolerance* had called forth an *Answer* from Jonas Proast, and L. contributed to the controversy that ensured a *Second* (1690) and a *Third Letter* (1692). Meanwhile his health was failing, and in 1691 he took up his permanent abode at Oates in Essex, the country seat of Sir Francis Masham. In 1693 he pub. *Some Thoughts concerning Education*, which were collected from a series of letters he had written from Holland to Edward Clark of Chipley concerning the education of his son.

Two years later he pub. anonymously *The Reasonableness of Christianity*, endeavouring to separate fact from dogma. This treatise also evoked a controversy, and L. defended himself in a *Vindication* (1695) and a *Second Vindication* (1697).

During 1696-1700, when he was busy with his duties as a commissioner of trade and plantations, he pub. answers to his various critics, an *Examination* of Malebranche's philosophy, additions to and alterations of his *Essay*, and wrote his *Conduct of the Understanding* (first printed in *Posthumous Works*, 1706). In 1700 he retired from public office, and during the remaining four years of his life spent much time in meditation and in close study of the Bible. He was buried in the par. church of High Laver, about a mile distant from Oates.

The object of the *Essay* is to examine the character of thinking and the extent of our abilities in thought, and L. took an empiricist and materialist standpoint, arguing that experience is the sole original



JOHN LOCKE

Engraving after a picture by Sir Godfrey Kneller.

source of knowledge. In his *Tolerance* he urges that there should be no disability attached to religious belief. The individual's absolute freedom of religious thought, which is widely taken for granted to-day, has been achieved by means of L.'s advocacy. His political philosophy, contained in the *Two Treatises of Government*, is based upon the doctrine of the ultimate sovereignty of the governed, and had a profound effect upon the future course of political thought and upon the constitution of the U.S.A. His method of presenting his ideas is straightforward and vigorous, but his style is lacking in grace.

L. left his papers and correspondence to his cousin Peter King (afterwards the seventh Baron King). These MSS., almost intact, were eventually deposited by their subsequent owner, Lord Lovelace, in 1942 in the Bodleian Library for which they were purchased later through the Pilgrim Trust in 1948. The Lovelace collection was already partly known through the medium of the *Life and Letters of John Locke*, which Lord King pub. in 1828. H. R. Fox-Bourne was not allowed access to them. Exhaustive reports of selected

papers, with a view to pub., have been made by Dr. W. von Leyden of Durham Univ. Of this collection there are ten journals, which form a record of L.'s life from 1675 until his death. Lord King printed long extracts from them, though only up to 1687. In addition to the journals there are twenty-eight of L.'s note-books, written in a shorthand to which Dr. von Leyden has found the key. It is from these note-books and from numerous loose papers in the collection that most new light can be thrown on L.'s writings. It was L.'s practice to enter in his note-books drafts of the treatises he wrote; thus while the *Essay concerning Human Understanding* was first pub. in 1690, the draft of it in Locke's note-books dates from 1670. Other treatises written by L. and as yet unpublished go to supplement the *Essay*, which deals but briefly with the ideas of pleasure and pain, their fuller treatment being reserved for a *Discourse on the Passions* and that *Discourse* is now found in the collection though it may not have the final form which L. would have given it. Of still greater interest is his hitherto unknown treatise, *The Law of Nature*, written in 1660-64. In this brief treatise he wrote his views on morality and knowledge almost thirty years before his first book appeared, and its discovery explains the curious absence from his published work of any detailed discussion of that natural law which forms the basis of his whole system. There is, however, nothing that bears upon his work as an educational reformer and little to throw new light on the political thought contained in the *Treatises on Government* (see *The Times*, Jan. 12, 1948). See also *INNATE IDEAS*.

L.'s works were first collected in 1714 in 3 vols. The best ed. is that of Bishop Law (1777); and there are eds. of *The Philosophical Works*, ed. by J. A. St. John (1843, 1854), and of *The Educational Writings*, ed. by J. W. Adamson 1912, 1922. The *Essay*, which has been trans. into most European languages, has passed through numerous eds., of which the best is probably Prof. Campbell Fraser's, with annotations (1894). See Jean le Clerc, *Bibliothèque choisie*, 1716; G. W. von Leibnitz, 'Nouveaux Essais sur l'entendement humain' in *Œuvres philosophiques*, ed. by R. E. Raspe, 1765. Sir W. Osler, *John Locke as a Physician*, 1901; J. Gibson, *Locke's Theory of Knowledge and its Historical Relations*, 1917; S. G. Hefelbower, *The Relation of John Locke in English Deism*, 1918; and K. MacLean, *John Locke and English Literature of the Eighteenth Century*, 1936; also lives by T. Fowler, 1880; A. O. Fraser, 1890; S. Alexander, 1908; and R. I. Aaron, 1937.

Locke, or Lock, Matthew (c. 1630-77), Eng. composer, b. at Exeter. He learnt music as a choir-boy at Exeter Cathedral under Edward Gibbons, and may afterwards have been a pupil of Wm. Wake there. He went to London c. 1650, and in 1653 collaborated in Shirley's masque *Cupid and Death* performed before the Portuguese ambas. In 1656 Wake, who had become a gentleman of the

Chapel Royal, asked him to write the *Little Consort* for viols in three parts for his pupils, and the same year he was one of the composers who took part in the setting of Davenant's *Steele of Rhodes*. For Charles II.'s coronation in 1661 he wrote instrumental music for the procession and was appointed composer in ordinary to the king. In 1663, having turned Rom. Catholic, he became organist to Queen Catherine. He was a vigorous and acrimonious defender of 'modern music,' writing in 1666 a pamphlet defending his church music and in 1672 opening a controversy with Thomas Salmon. Purcell wrote an elegy on his death. His works include anthems; Lat. hymns; consorts for viols in three and four parts (the latter in six suites); songs in three parts, duets; airs and songs for one voice with accompaniment, etc.

Locke, William John (1863-1930), Eng. novelist and playwright, b. at Georgetown, Demerara, W. Indies. Educated in Trinidad and at Cambridge Univ., he was a master at Glenalmond School, and later secretary to the Royal Institute of Brit. Architects. During the later part of his life he lived on the Riviera. His most popular novels include *At the Gate of Samaria* (1895); *The Morals of Marcus Ordeyne* (1903), later dramatised; *The Beloved Fagabond* (1908), later dramatised; *Septimus* (1909); *The Joyous Adventures of Aristide Puyol* (1912); *Stella Maris* (1913); *The Wonderful Year* (1916); *The Rough Road* (1918); *The Great Pandolfo* (1925); and *The Old Bridge* (1926). In 1930 he issued a vol. of short stories, *The Town of Tombarel*, and after his death appeared *The Shorn Lamb* (1931). His chief play was *The Man from the Sea* (1910).

Lockerbie, tn. of Annandale, Dumfriesshire, Scotland, 3½ m. from Lochmaben. The largest lamb fair in Scotland was held there annually in August. Pop. 2690.

Locker-Lampson, Frederick (1821-95), Eng. poet. In 1857 he pub. *London Lyrics*, a collection of charming light verse. He compiled *Lyra-Elegantiarum* (1867), an anthology of light verse, and *Patchwork* (1879), a selection of prose passages. *My Confidences*, an informal autobiography, appeared posthumously (1896) with a preface by his son-in-law, Augustine Birrell. In 1886 he printed a catalogue of his famous library at Rowfant. See A. C. Swinburne, *Studies in Prose and Poetry*, 1894, and A. Birrell, *Frederick Locker-Lampson: a Character Sketch*, 1920.

Lockhart, John Gibson (1794-1854), Scottish author and editor, b. at Cambusnethan. He was an early contributor to *Blackwood's Magazine* (founded 1817). In 1818 he met Walter Scott, and two years later married the novelist's eldest daughter, Sophia. He wrote many articles and novels, and in 1825 accepted the editorship of the *Quarterly Review*, and settled in London. He did not retire from the control of the *Quarterly* until 1833. In 1828 appeared his biography of Robert Burns; in the following year he contributed to Murray's *Family Library* a *History of Napoleon Bonaparte*, and in 1832 issued the *History of the late War*,

including *Sketches of Buonaparte, Nelson, and Wellington—for Children*. His greatest work was the *Memoirs of the Life of Sir Walter Scott* (7 vols., 1837-38), a biography which ranks second only to Boswell's *Johnson*. Very generously L. made over the profits of this book to the creditors of Sir Walter Scott. As a novelist L. was not particularly successful, but *Some Passages in the Life of Mr. Adam Blair* (1822) repays perusal. See S. Smiles, *A Publisher and his Friends*, 1891, and A. Lang, *The Life and Letters of John Gibson Lockhart*, 1897.

Lockhart, Sir William Stephen Alexander (1841-1900), Brit. general, entered the Indian (Bengal) Army in 1858, and served in the Indian mutiny, the Bhutan campaign (1864-66), and the Abyssinian expedition (1867-68). He won fame also in the Afghan war (1878-80) and the third Burmese war (1886-87). From 1890 to 1895 he commanded the Punjab frontier force, and became commander-in-chief in India (1898), after conducting the Tirah campaign.

Lock Haven, co. seat of Clinton co., Pennsylvania, U.S.A., on the Susquehanna R., 20 m. W.S.W. of Williamsport. It has dye works and silk and woollen mills. Pop. 10,800.

Lock Hospital, leper hospital, known as the Lock Lazar Hospital, was in Southwark as early as 1453. It was later turned into a hospital for the treatment of venereal diseases, in which sense only the term 'Lock Hospital' was subsequently used. In 1949 it ceased to exist, and its building was handed over to the W. London Hospital for Nervous Diseases.

Lockjaw, see TETANUS; in horses see under HORSE (DISEASES).

Lock-outs, see STRIKES AND LOCK-OUTS.
Lockport, co. seat of Niagara co., New York, U.S.A., 22 m. E.N.E. of Buffalo, on the Erie Canal. There are mills and manufs. of indurated fibre ware, steel, etc. Pop. 24,400.

Locks and Keys. A lock is a fastening which consists of a bolt held by one or more movable parts in a certain position, and requiring a key which will manipulate these movable parts in the required way, before they can be actuated. The most primitive forms of fastening were by means of knotted thongs or a wooden or metal bar placed across the inside of a door. The modern lock is the product of evolution from such a bar, sliding in staples and entering a hole in the door-post. A curved key, in shape somewhat like a sickle, was used to move such a bar, and examples have been found in many parts of N. Europe. The earliest L. of all are probably the Chinese, of which some specimens still extant are as secure as any made in Europe up to the eighteenth century. Some Egyptian L. are known to be 4000 years old, and L. on the Egyptian plan may be found in many parts of Europe. The Egyptians inserted a portion of the hole into which the key was inserted were inserted hollow, and the key was inserted upon it correspondingly. The key was inserted into the hole of the bolt. The

Roms. based their L. on the principle as the Egyptians, but the bolt is smaller and the dropping pins are pressed downwards by a spring.

The early Eng. and medieval keys were the forerunners of the modern keys from a mechanical point of view. In the L. of this period a pivoted tumbler is used instead of dropping pins. A number of impediments contained in the lock case were from an early period interposed between the key and the bolt; these are called wards, and the portion of the key which enters the lock is formed so as to escape them. Robert Barron improved the mechanism of L. in 1774 by placing two levers to guard the bolt, instead of only one, as had previously been done; and he also made it necessary for the levers to be lifted up to the right height exactly before the bolt could be turned. The Bramah lock of 1784, invented by Joseph Bramah (1749-1814), marks the next stage in the improvement of L. A number (generally six) of thin metal plates called sliders, the notches in which must be brought into certain positions before the key could be used, formed the distinguishing feature of the lock. The Chubb lock was patented in 1818, and since then has been many times altered and improved. It is a tumbler lock, and has more tumblers than usual with the addition of a lever called the detector. This is so placed that it moves and fixes the bolt if any of the tumblers be lifted a little too high. Notice is thus given of any attempt at picking the lock, even if unsuccessful, as the rightful key will not then open the lock until it has first been turned the reverse way. Both the Bramah and Chubb L. were erroneously thought to be 'unpickable.' The Yale lock was an Amer. invention of about 1860. It is also a tumbler lock, but the small flat key and the keyway interlock throughout their length owing to their peculiar cross section. When it is necessary to have a series of L. which shall all have their own separate keys, but also one master key which will open them all, one of two methods may be used for the latter. The wards of each lock may be different so that each key will fit only one lock, whilst the master key will have the bit filed off and so fit all the locks. This is open to the objection that any of the subordinate keys may be made into a master key by filing off the right piece. The other method is to make all the levers of each lock alike save one; another 'gating' is cut in the differing levers so that the master key, which is specially cut, will fit all the L. In safe deposits, unless a fresh lock were to be fitted every time a safe changed hands, which would be a troublesome and expensive proceeding, some invention by which the key of the out-going tenant of the safe might be rendered useless was necessary. Such an invention was patented by H. Newell in 1841, and introduced into Great Britain by A. C. Hobbs in 1881. The Chatswood Safe Company have for many years made an improved form of changeable key L. L. in which the internal parts were

arranged in their right position by the manipulation of external parts which were marked with letters, numbers, or other device have been common in China from remote antiquity, but the hist. of their invention remains obscure. Such L. are, of course, the predecessors of the combination L. which have been brought to such a degree of excellence in America. Blocks of metal corresponding to the different letters of the alphabet are introduced into the lock, and the person locking the door places these to spell any word or combination of letters he chooses. When the door is once locked no person can open the door without a knowledge of the same word as was used in shutting it, even if he has the key. Combination L. are also made in which the mere fact of setting the dial, mounted on the spindle which passes through the door to work the wheels, in the right manner opens or closes the door, no key being required.

The application of time to L., so that the period during which a door remains locked may be exactly predetermined, is a recent invention, and is very suitable for strong-rooms, etc., which can thus be locked during the night. Time L. are worked by a high-class chronometer movement, not liable to get out of order easily, which drives a disk provided with gating which the bolt can only enter at the time desired. One movement is sufficient to work a time lock, but three or four are usually provided. When once a time lock has been set it cannot be opened until the appointed hour by any key whatsoever.

Lockyer, Sir (Joseph) Norman (1836-1920), Brit. astronomer, b. May 17 at Rugby, son of Joseph Hooley L., an early worker on the electric telegraph. Educated at private schools and on the Continent, he entered the War Office in 1857; in 1865 he became editor of *Army Regulations*. In 1869 he was made F.R.S. and founded *Nature*, the scientific weekly. Transferred to science and art dept. in 1875, he became director of the solar physics observatory, S. Kensington, 1885-1913, and afterwards director of the Lill Observatory, Salcombe Regis. His researches are recorded in over 200 papers (mostly pub. of the Royal Society), and entailed many long journeys to observe eclipses. See life by M. and W. Lockyer, 1928.

Locomotive Engines, see under STEAM ENGINES.

Locomotives, see under RAILWAYS; STEAM ENGINES.

Locomotor Ataxia, in medicine caused by syphilis, of which L. A. is a late manifestation. The chief symptoms are the want of co-ordination of the muscular movements, from which the disease gets its name, but the eyes and other special senses are also disturbed. The disease may come on quite gradually and remain in any of its stages, but continued progress leads to paralysis. One of the earliest signs is the inability of the patient to stand upright with his feet together and his eyes closed; the pupil of the eye fails to contract in response to a bright light,

and the knee-jerk reflex is diminished. Anti-syphilitic treatment should be instituted and attention paid to the patient's general health. The posterior (sensory) columns of the spinal cord are the sites particularly affected; by careful training, as in Prof. Frenkel's method, it is sometimes possible to institute new paths in the spinal cord to replace those destroyed by the disease.

Loeri, two distinct tribes of ant. Greece; one occupied the dist. from the N.E. of Parnassus along the coast of the Maline Gulf, enclosed on the W. by Doris and Phocis, while the other occupied the dist. S.W. of Parnassus, on the N. shore of the Corinthian Gulf between Phocis and Aetolia. The former were divided into the L. Epimenidai to the N. and the L. Opuntii, from their cap. Opus, to the S., and they are mentioned by Homer. The latter, the L. Ozolae, do not appear in hist. until the Peloponnesian war. A colony called L. Epizephyrii, from which tribe is unknown, under the leader, Euanthes, settled in S. Italy, N. of Cape Zephyrium, about 683 B.C. It had a famous code of laws given by Zaleucus in 661 B.C.

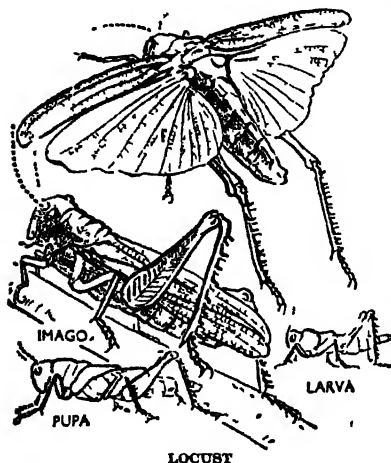
Locse (Ger. Leutschau), tn. in Zips co., Czechoslovakia, near a trib. of the Hernad, 125 m. N.E. of Pest. It has a church dating from the thirteenth century. Pop. 6910.

Locus, in mathematics the line traversed or surface covered by a point limited in its motion by definite conditions. The L. of a point moving subject to the condition of constant distance from another, but fixed, point is the surface of a sphere; if, on the other hand, it be restricted to motion in one plane only, the L. will be the circumference of a circle. Every curve is the L. of a point constrained in motion and the investigation of the conditions is considered in analytical geometry.

Locus Standi, literally, a place of standing: (1) In law means the right of audience in a lawsuit. No counsel has a right to say anything during the hearing of a case unless he has been 'briefed' or instructed by solicitors acting for one or other of the litigating parties. A counsel who holds a 'watching brief' for parties interested, but not actually on the record as parties to the suit, may, like any member of the public, hear the evidence, but, having no L. S., he may not speak. (2) In parl. practice a term used in regard to the right of petitioners to be heard against private Bills in the House of Commons. Questions on the L. S. of the petitioners are heard by the committee (see COMMITTEES, PARLIAMENTARY) to which the bill is referred.

Locust, orthopterous (straight-winged) insect of the family Acrididae, closely allied to the grasshoppers (Tettigonidae), characterised by long antennae and typified by the great green grasshopper (*Tettigonia viridissima*). The true L. have short antennae, the head has three ocelli on the forehead, and the female lacks a projecting ovipositor. Perhaps their most remarkable physiological feature is the large apertures in the first segment of the

abdomen containing organs which undoubtedly possess auditory functions. The 'chirping' is produced by working the hind legs so that the thigms, on which are minute teeth pass over the wing cases. A number of species are responsible for the terrible ravages which, since agriculture began, have made *Locusta* its most feared enemies. The best known European species is the migratory *L. (Locusta migratoria)*, which is also widely distributed in other countries, and it may be said that *L.* range from the W. of Europe to China, while the Amer continents including Canada, are not infrequently visited by devastating migrations. When a migration occurs, probably owing to increasing density of pop in the solitary



phase of the insect, whereby the gregarious phase arises, the insects will eat anything that is green and, if need be, will devour animal substances, including their own young. The larvae, which hatch from eggs laid by the female in a hole in the ground, are destructive from the first. They resemble the parents except that they lack wings, and advantage is taken of this in waging war on the plants. While wingless they cannot surmount smooth surfaces, and the line of march of the migratory horde is intercepted by canvas screens 4 ft high. When they try to pass round the obstacle they fall into deep pits where they rapidly collect, and the pits are covered with earth when nearly full. Poison bait consisting of bran mixed with arsenic or 'gam maxane' is also used to destroy the 'hoppers,' as these immature flightless forms are called. Attempts have been made to spray both hoppers and flying swarms with poison dust from aircraft. Biological control has also been tried, e.g. by the fungus *Empusa grylla*, which parasitises the *L.* Elaborate systems of giving warning of the

approach of a migratory horde enable full precautions to be taken, and many well farmed districts claim that the screen method of destruction has had extraordinary success, though it cannot check the aerial migrations of adults. Swarms in the air have been known to darken the sun.

The periodicity of the appearance of migratory *L.* has been the subject of much speculation; it is governed by the rapid increase in their numbers and some divide their visitations in multiples of eleven, but, with the spread of systematic agriculture and persecution of the pests, any definite periodicity grows less likely. The activities of the anti-*L.* research centre at the Natural Hist Museum in Kensington, in charge of B. P. Uvarov (1949) are largely directed to tracing the headquarters of the solitary phase of the different species and so preventing migration. It is known, for instance, that the middle Niger is the breeding ground of *L. migratoria*. Similar work was initiated in the U.S.A. by C. V. Riley (q.v.), the state entomologist of Missouri. See also *ENTOMOLOGY*. See B. P. Uvarov, *Locusts and Grasshoppers*, 1928 and *Locust Outbreak in Africa and West Asia 1915-31*, 1933, and fourth report of Commission on Locust Control, 1932 (cmd 4124).

Locust Tree, see *ACACIA*.

Lodelinsart, Belgian tn., situated in Halnaut, 2 m N. of Charleroi. It has coal mines and blast furnaces, its chief industries are iron, glass, and machinery. Pop 10,700.

Lodes. Metals and metallic ores are usually found in cracks in the rocks of the earth's crust. *Lode* is the miner's term for these veins, as distinguished from non-metalliferous veins. The thickness varies from a few inches to hundreds of feet. Veins may traverse every kind of rock. They seldom run parallel to the bedding, but more or less vertically, though the branching is very varied and irregular, as also is their persistence and thickness. In contorted strata the veins may run along the bedding planes. There is no proof that the mineral deposits have intruded in a molten state from below; probably in most cases they are deposited from infiltrated solutions obtained from the surrounding strata or from deeper sources by mineral springs which have dissolved the mineral constituents from igneous rocks. The material often shows aggregated layers due to successive stages of deposit. The richness of a lode is extremely variable, but in general the portions nearer the surface which have been subject to attrition and exposed to oxidation by the atmosphere or to action of water, have waste matters (gangue) removed, the heavier minerals remaining collected together. They are, further, in the form of oxides and carbonates, and much more easily subject to extraction of the metal than the unoxidised sulphides, arsenides, etc., which are found deeper. Some rocks are so filled by reticulated masses of veins as to render them totally unworkable. The working of *L.* is very frequently rendered troublesome by the

appearance of faults (q.v.), but the same disturbances are useful in giving surface indications of their existence as mineral ores below. Thus dykes, cliffs, and steep valleys due to faults are surface valleys of veined rocks. Prospecting for such deposits is a matter of searching for the slightest and often very indirect indications, among which may be mentioned the stones washed down the beds of streams, mineral springs, the presence in soils of disintegrated and chemically transformed products, and the growth of plants feeding on such soils. Magnetic iron is indicated by the magnetic needle. See J. Phillips, *Treatise on Ore Deposits* (ed. by H. Louis), 1896; J. F. Kemp, *Ore Deposits of the United States*, 1900; H. H. Thomas and D. A. McAlister, *Geology of Ore Deposits*, 1909; F. H. Hatch, *Study of Ore Deposits*, 1929; T. Cook, *Theory of Ore Deposits*, 1933; and geological works of Sir C. Lyell, Sir J. Prestwich, and Sir A. Geikie.

Lodestone, see MAGNETITE.

Lodève (anc. Lutetia, later Forum Neronis), tn. in the dept. of Hérault, France, 36 m. W.N.W. of Montpellier. It has manufs. of arms, clothing and woollens, wine and spirits. Pop. 7000.

Lodge, Edmund (1756-1839), Eng. genealogist, b. in London. He became successively Lancaster herald, Norroy king-of-arms, Clarenceux king-of-arms, and in 1832 knight of the order of the Guelphs of Hanover. He is best known as the author of the *Portraits of Illustrious Personages of Great Britain* (1821-34). He also ed. *Illustrations of British History, Biography, and Manners in the Reigns of Henry VIII., Edward VI., Mary, Elizabeth, and James I.* (1791-1838). His chief work on heraldry was *The Genealogy of the Existing British Peerage* (1859).

Lodge, Henry Cabot (1850-1924), Amer. historian and sonator; b. May 12 at Boston, Massachusetts. Admitted to the Bar in 1876, he was Republican member of Congress, 1897-93, member of the House of Representatives, Massachusetts, 1880-1881, and U.S. senator from 1893 until his death. He was, before the First World War, strongly anti-Brit. During the war he was opposed to 'negotiated' peace; and it was he who, at the end of 1918, began the campaign that ended in America's rejection of the treaty of Versailles and the whole of President Wilson's foreign policy. His publs. include *Essays on Anglo-Saxon Law* (1876); *Life and Letters of George Cabot* (1878); *George Washington* (1889); *Daniel Webster* (1891); *History of Boston* (1891); *Historical and Political Essays* (1892); *Hero Tales from American History* (1895); *A Fighting Frigate, and other Essays and Addresses* (1902); and *Early Memories*, 1914.

Lodge, Sir Oliver Joseph (1851-1940), Eng. physicist, b. at Penkhull, Staffordshire, eldest son of Oliver L. of Wolstanton. He was educated at Newport (Salop) Grammar School and Univ. College, London. At the latter institution, which he attended after the hours of the business in which he was engaged, he graduated B.Sc., taking honours in physics. He

then studied in Prof. Carey's laboratory, became D.Sc., and was appointed assistant prof. of physics. Prof. of physics, Univ. College, Liverpool, 1881-1900, in 1898 he was Rumford medallist of the Royal Society. Principal of Birmingham Univ. from its estab., 1900-19, he was knighted 1902. Later in that year he was Romanes lecturer at Oxford; president of the Mathematical and Physical Section, Brit. Association, 1891; of the Physical Society of London, 1899-1900; and of the Society for Psychical Research, 1901-4. His works at first dealt chiefly with electrical science, but the immense sale in England of Haeckel's *Riddle of the Universe*, which had alarmed the orthodox, stimulated L. to publish, in 1905, his *Life and Matter* by way of refutation. Later he was industrious in promulgating doctrines that were religious in the modern Congregationalist sense, i.e. which make the most extensive and fundamental alterations in the anct. structure of Christianity, and yet deny that continuity is destroyed; the underlying motive being a dread lest religion be outmoded by science. The excursions into spiritualism and psychical research that he had made before the First World War (e.g. *The Surreal of Man*, 1909) were amplified soon after its outbreak. His son Raymond was killed on Sept. 14, 1915, and the book *Raymond* (1916) alleges contact with the spirit of that young soldier.

His place in the scientific world rests chiefly on his researches on radiation and the relation between matter and ether. His experiments on lightning conductors almost reached the Hertzian discovery of electro-magnetic radiation; and he invented the 'coherer' and disproved by experiment the existence of viscosity in ether. Using his 'coherer' as a detector he was the first to accomplish wireless telegraphy before Marconi had taken it up. He was also a pioneer in the theory of electrolysis and in the study of the movements of ions, and his inventions included an electrical method for dispersing fog, improved sparking plugs, and many contributions to physical science. Besides the works already mentioned he wrote, among others, *Modern Views of Electricity* (1889); *Pioneers of Science* (1893); *Signalling across Space without Wires* (1908); *Matter and the Universe* (1908); *The Ether of Space* (1909); *Parent and Child* (1910); *Modern Problems* (1912); *Christopher, a Study in Human Personality* (1919); *Making of Man* (1924); *Atoms and Rays* (1924); *Ether and Reality* (1926); *Relativity* (1925); *Electrical Precipitation* (1925); *Evolution and Creation* (1927); *Energy* (1928); *The Reality of a Spiritual World* (1930); *Beyond Physics* (1930). See his autobiography (1934).

Lodge, Thomas (1558-1625), Eng. dramatist and poet, b. at West Ham. He entered Lincoln's Inn in 1578, but soon abandoned himself to the lighter aspects of literature. In 1589-91, seeking variety and change of life, L. took part in two sea expeditions against the Spaniards near the Azores and Canary Is. During the latter expedition he composed his

prose tale of *Rosalynde*, which furnished Shakespeare with the story of *As You Like It*. He also pub. about the same time two romances, viz. *Robert, Second Duke of Normandy* and *Euphues' Shadow, the Battail of the Seneces*. He excelled as a lyric poet, and *Glaucus and Scilla* appeared in 1589; his main vol. of verse, *Philis: honoured with Pastorall Sonnets, Elegies, and amorous Delights*, appeared in 1593. L. is likewise the author of two second-rate dramas entitled *The Wounds of Cirile War* and, in collaboration, *A Looking-glass for London and England*, and he trans. the works of Seneca and Josephus. His works were ed. by Sir E. Gosse (4 vols.) in 1884. See C. J. Sisson, *Thomas Lodge and Other Elizabethans*, 1933; also lives by N. B. Paradise, 1931 (with bibliography), and E. A. Tenney, 1935.

Lodgers and Lodgings. It is notoriously difficult to define a 'lodger,' but the term most commonly connotes a person who hires rooms and attendance in a house in which the landlord himself resides. But it also means (1) a person who contracts with a boarding-house keeper for food and lodging regardless of exclusive occupation of a separate room; (2) the hirer of part of a house (that part being furnished or unfurnished), who brings his own servants and procures his own attendance, although the landlord resides on the premises; and (3) persons who live in separate tenements in model dwellings, or similar places, where there are a common staircase and a resident servant or porter appointed by the landlord to perform particular services for the tenants. A lodger's rights will ordinarily depend on the agreement he makes with the landlord on taking his rooms. But he is always entitled to have his goods properly looked after by the landlord, who will be liable for loss or theft occurring through his neglect. Under the Law of Distress Amendment Act, 1908, if the superior landlord threatens to distrain on the lodger's goods for rent due by the lodger's landlord, the lodger can protect his goods by serving on the superior landlord or his agent a written declaration stating his ownership, and containing an undertaking to pay any arrears of rent he may himself owe directly to the superior landlord instead of to his own landlord. But whatever he pays to the superior landlord he can deduct from his next payment to his own landlord (see also *Distress*). Any one who lets furnished lodgings which are not reasonably fit for occupation may be sued by a lodger for damages, but there is no warranty that the premises shall continue in a sanitary condition during the tenancy. A lodging-house keeper who knowingly lets lodgings to a prostitute for the purposes of her calling cannot recover his rent. Letting lodgings is probably not a breach of a covenant in a lease not to underlet or part with the premises without the consent of the landlord. If a person agrees to take apartments but does not enter into possession, he is liable for use and occupation, though he may be sued also for damages for breach of contract.

Lodi, tn. and episcopal see in the prov. of Milan, Piedmont, Italy, on the r. b. of the Adda, 20 m. S.E. of Milan. The cathedral dates from 1158 and the church of the Incoronata from 1488. Napoleon gained a victory at L. over the Austrians on May 10, 1796. There are manufs. of Parmesan cheese, majolica, linen, and silk. Pop. 23,300.

Łódź, co. and tn. of Poland, in the prov. of Piotrkow, on the Lodka R., 82 m. S.W. of Warsaw. In spite of a heavy death rate due to the unhealthy air, L. grew more rapidly than most other tns. in Europe before the First World War owing to the immigration of Ger. capitalists. The pop. of the prov. which in 1872 was 50,000 reached 100,000 in 1910 (composed of Poles, Gers., and Jews), and in 1931 was 2,633,000; tn. (1916) 497,000. The chief manufs. before 1939 were cottons, woollens, chemicals, beer, spirits, and iron goods. There were also dye works, flour mills, and agric. implement manufs. In the First World War the battle of L. was fought on Dec. 15, 1914. After the war L. became a Polish military dist. On Sept. 1, 1939, L. was bombed, together with many other Polish tns., by the Gers. On Sept. 7 the Gers. were approaching L. and next day the Poles retreated from the city. In the Ger.-Soviet demarcation line fixed on Sept. 28, L. was assigned to the Ger. sphere (see further under *POLAND*). The Russians turned the tables on the Gers. in 1945. Ger. resistance in Warsaw collapsed on Jan. 17, 1945, when the Russians forced the Vistula and took the cap. Simultaneously with their invasion of E. Prussia soon afterwards the Russians reached the Silesian frontier S. of Wielun, advanced 50 m. on the N. slopes of the Carpathians and captured Cracow and L.

Loeb, Jacques (1859-1924), Ger.-Amer. physiologist. In 1910 he became head of the div. of general physiology, Rockefeller Institute. His most striking book is *Tropisms and Animal Conduct* (1916).

Loeb, James (1868-1933), Ger.-Amer. archaeologist and devotee of the classics. After ceasing business life he pursued archaeology. President of the Amer. School of Archaeology at Athens, he was a member of the Societies for the Promotion of Hellenic and Rom. Studies, and of the Archaeological Institute. He will be chiefly remembered for launching the Loeb Classical Library at his own expense. The original scope of the library was intended to cover everything of any importance in literature from the time of Homer to the fall of Constantinople, but the First World War hampered progress. He trans. Paul Decharme's book on Euripides, Maurice Croiset's on Aristophanes, and Couat's *Alexandrian Poetry under the First Three Ptolemies*.

Loèche-la-Ville, see *LEUX*.

Loeffler, Charles Martin Tornev (1861-1935), Alsatian-Amer. musical composer and violinist, b. at Mulhausen; studied the violin under Joachim in Germany and composition under Guiraud in France. Later he went to Boston and devoted himself to teaching. He held a leading

place among modern Amer. composers with his orchestral compositions. His best known work is the *Villanelle du Diable*, an orchestral piece first performed in 1902. His *Five Irish Fantasiae* were first sung at Boston in 1922 by John McCormack.

Loëss, name given originally to a loamy deposit occurring in the basins of the Rhine and Danube. It consists mainly of clay with fine sand and chalk, evidently loosely deposited and since somewhat solidified by its own weight and the action of percolating water. Extensive deposits have been recognised and studied in many regions, notably China, where thousands of sq. m. are covered to a depth of over 1000 ft., the Black Earth of Russia, and the Mississippi basin. There has been much discussion as to its origin, leading to

ballads. His other compositions include sev. oratorios, *The Destruction of Jerusalem*, *The Seven Sleepers*, and *Jean Huss*, sev. operas; and overtures, choruses, symphonies, concertos, and lyrical poems *Sie A. B. Bach*, *The Art Ballad*, *Loewe and Schubert*, 1890, and L. Hirschberg, *Loewe als Instrumental-komponist*, 1919; also lives by H. Bulthaupt, 1898, M. Runze, 1903, and O. Altenburg, 1924.

Loft, Capell (1751-1824), Eng. author, b. in London. He was called to the Bar in 1775, but spent most of his life on his estates near Bury St. Edmunds. He was a prolific writer on miscellaneous subjects, a zealous advocate of parl. reform, and opponent of the Amer. war and the slave trade. Byron ridiculed him in *English Bards and Scotch Reviewers* as the Mincenas of 'distressed versemen.'



Norwegian Stule houses

THE FISHING TOWN OF SVOLVAR IN THE LOFOTEN ISLANDS

a general conclusion that it is wind-borne from desert or steppe land, desiccated like basins, glacial moraine, and the sediment left by vastly swollen rivers of the glacial epoch. The distribution of L. may be summarised with some approximation to correctness as forming a fringe on the equatorial side of the limit of glaciation and on the great desert and steppe lands. Prof. von Richthofen studied the great deposit in China, and concluded that it was the wind drifted fine dust from the central deserts of Asia, brought down by the moist air near the coast. Given sufficient rainfall L. is extremely fertile, it weathers into vertical cliffs and horizontal terraces; excavations in the former provide homes for large numbers in China. It gives colour and name to the Huang Ho and Yellow Sea.

Loewe, Johann Karl Gottfried (1798-1869), Ger. musician and composer, b. in Lobezin, near Halle, and studied at Halle. He settled in Stuttgart and produced an enormous quantity of compositions. His ballads are particularly expressive and original, and as the composer of *Edward and the Elf King* (1818) he takes a foremost place among the writers of 'art

Lofoten, or Lofoden, Islands, large group of 19 lying off the N.W. coast of Norway, between 67° 30' and 69° 20' N and 12° and 16° 30' E. The group is separated from the mainland by the Vestfjord, and is divided into two sections by the Rattsund, the N. I. proper lying to the W. and S., and the Vesteraken to the E. and N. The famous Maelström lies between Mosbøen and Mosken. The climate is not very rigorous, there is good pasturage for cattle, and barley can be grown. The chief industry is cod fishing; lobsters and harrings are also caught, and cod-liver oil and fish guano are manufactured. Brit. commando raiders landed on the is. on March 6, 1941, sank 18,000 tons of Ger. shipping, took 215 Ger. prisoners and destroyed an important fish-oil plant. Another raid was carried out on Dec. 29. Area about 2812 sq. m. Pop. 41,000. See under NAVAL OPERATIONS in THE SECOND WORLD WAR.

Lofting, Hugh (b. 1886), Amer. author and illustrator, b. at Maidenhead, England. He settled in the U.S.A. in 1912 as a practising civil engineer. After military service in the First World War he turned to writing and illustrating children's

books, the most successful being the 'Dr. Doolittle' series. This series includes *The Voyages of Dr. Doolittle* (1812), for which he received the Newbery medal; *Dr. Doolittle's Caravan* (1926); and *Dr. Doolittle's Return* (1933). Other books: *Porridge Poetry* (1924) and *Gub Gub Book* (1932).

Loftus, par. and tn. of N. Riding, Yorkshire, England, 9 m. N.E. of Gulsborough. Alum, stone, and iron are found, and there are brickyards and tile works. Pop. 9000.

Lofty, Mount, mt. of S. Australia, and the highest peak of the Lofty Range, situated near Adelaide. Its altitude is 2400 ft.

Log (a word of uncertain origin) in a nautical sense is an apparatus for measuring the speed of a ship. There are two main varieties of L., the common L. and the patent L. The origin of the former is obscure, and no mention of it is found until 1577. There are four parts to a common L., the L.-ship or L.-chip, the L.-reel, the L.-line, and the L.-glass. The L.-ship is a wood quadrant about $\frac{1}{2}$ in. thick, of a radius of 5 or 6 in., and having the circumference weighted with lead to keep it upright. There are two holes near the lower angles, through one of which the end of a short piece of thin line is passed and knotted; the other end of the line is spliced to a hard bone peg, which is inserted in the other hole. The L.-ship hangs square from this span of rope, to which the L.-line is secured. The first portion of the line (from 10 to 20 fathoms) is known as the stray line, and should be long enough to take the L.-ship out of the ship's wake. A piece of bunting marks the end of the stray line, and from this the line is marked with 'knots' at regular intervals. A nautical mile is assumed to be 6080 ft., and the distance between knots bears the same relation to this distance as the number of seconds in the L.-glass bears to an hour. If the glass is a 38-sec. one the distance is 47 ft. 3 in., if, as is more rarely the case, it is a 30-sec. glass the distance is 50 ft. 7 in. For speeds over 8 knots a 14-sec. glass is generally used, and the indicated speed doubled. To heave the log a man holds the L.-reel over his head, and an officer throws the L.-ship, with the peg in, clear to windward. The L.-glass is turned when the bunting reaches the officer's hand, and as soon as the glass has run out the progress of the line is stopped, and the distance measured.

Various patent Ls. have been invented, some of which are fixed on the taffrail and the speed read off. The 'Cherub,' for low speeds to 18 knots, 'Neptune,' for high speeds and rocket Ls., were invented by Walker. The prin. part is a rotator, the revolutions of which indicate the speed. All patent Ls. are liable to error, the extent of which should be ascertained by shore observation in calm weather.

Logan, John (1748-88), Scottish poet and divine, b. at Soutra, Midlothian. In 1771 he was presented to the charge of S. Leith, and ordained two years later. Some local scandal having arisen in con-

nection with his name, he resigned his charge in 1786, retaining part of his salary. He settled in London, where he contributed to the *English Review*. His undisputed works include *Essay on the Manners and Governments of Asia* (1782); *View of Ancient History* (1788-93); *A Review of the Principal Charges against Warren Hastings* (1788); and two vols. of *Sermons* (1790-1791). His poems, especially the ballad *Braes of Yarrow*, are marked by passages of rare beauty, but the charges of plagiarism and of appropriating the verses of Michael Bruce have led to a large amount of controversy, more especially in connection with the *Ode to the Cuckoo*, (though modern research tends to substantiate its authenticity as L.'s work. See J. Anderson, *Life of Logan*, 1795; D. Laing, *'Ode to the Cuckoo,' with Remarks on its Authorship*, 1873; and *British and Foreign Evangelical Review*, 1877 and 1879).

Logan, Sir William Edmund (1798-1875), Canadian geologist, b. at Montreal. From 1842 to 1871 he was director of the Canadian Geological Survey. He discovered the Stignaria under-clays and the *Eozoon canadense*. He was knighted in 1856. His *Geology of Canada* was pub. in 1863. See life by J. Harrington, 1883.

Logan, city and co. seat of Cache co., Utah, U.S.A., on the L. R., 70 in. N. of Salt Lake city. It is the seat of the Stato Agric. College, and of the Brigham Young College (1878). It is the centre of a rich agric. and mining dist. Pop. 11,800.

Loganberry, cross between the raspberry and the blackberry, originally raised by Judge Logan in California. The fruit resembles the raspberry in character, but is larger, darker coloured, and more prolific. Its core remains in the fruit when the stalk is removed, as in the blackberry. Its flavour is sharper and more acid than the raspberry. The cultivation of Ls. has rapidly developed; the chief use of the fruit is for bottling and preserving. The plant is hardy and easily grown.

Logan, Mount, in the S.W. corner of the Yukon ter., Canada. It is the second highest known peak in N. America, and has an altitude of 19,850 ft.

Logansport, city of Indiana, U.S.A., in Cass co., on the Wabash R., 68 m. N.W. of Indianapolis. Limestone is quarried for use in the iron manuf. L. has large manufs. of automobiles and bodies, electrical machinery, paper, etc. Pop. 20,100.

Logan Stone, The (Cornwall), see ROCKING STONES.

Logarithms. The preface to Chambers's *Logarithmic Tables* gives the following explanation: 'A table of logarithms is a collection of auxiliary numbers so constructed that by it Multiplication of common numbers can be performed by addition of their logarithms; Division by their subtraction; Involution, or the raising of powers, by their multiplication; and Evolution, or extraction of roots, by their division.' The definition of a logarithm is then given as follows: 'These auxiliaries

or logarithms are the exponents of powers to which an invariable number called the *base* has to be raised, in order to produce the number of which it is the logarithm. Expressed mathematically, if x is the logarithm of a number N to the base b , then x is defined by the equation $N = b^x$. A convenient way of stating the fact that x is the logarithm of N to the base b is $x = \log_b N$. In this article we shall show the usefulness of L , by verifying the facts stated in the explanation and, finally, how the tables are constructed and how they are to be used. For the moment let us suppose the tables are constructed and in our possession. (I.) *Multiplication of numbers.* Suppose M and N are two numbers and that $x = \log_b M$; $y = \log_b N$. From the above definition of L , $M = b^x$ and $N = b^y$. Hence $MN = b^{x+y}$, i.e. $\log_b MN = \log_b M + \log_b N$. In other words, $\log_b MN$ is found by *addition* of the logarithm of the two numbers; from the tables we then discover the required number.

Example. Using a table of L constructed to the base 10 multiply 26 by 47. We find $\log_{10} 26 = 1.4150$, $\log_{10} 47 = 1.6721$. Hence by our rule $\log_{10} (26 \times 47) = 1.4150 + 1.6721 = 3.0871$. From the same tables we find that $\log_{10} 1222 = 3.0871$; hence $26 \times 47 = 1222$. The above argument can be extended for the multiplication of any set of numbers. Thus $\log_b MNOP \dots = \log_b M + \log_b N + \log_b O + \log_b P + \dots$

(II.) *Division of numbers.* $\log_b \left(\frac{M}{N} \right) = \log_b M - \log_b N$, for if $x = \log_b M$ and $y = \log_b N$, then by definition $M = b^x$ and $N = b^y$. Hence $\frac{M}{N} = b^{x-y}$, whence $\log_b \left(\frac{M}{N} \right) = x - y$.

Example. Using tables to the base 10, divide 63 by 9. We find $\log_{10} 63 = 1.7993$ and $\log_{10} 9 = 0.9512$. Hence by our rule $\log_{10} \left(\frac{63}{9} \right) = 1.7993 - 0.9512$

$= 0.8481$. From the same tables we find that $\log_{10} 7 = 0.8451$; hence $\frac{63}{9} = 7$. This obvious answer has been used for simplicity. The reader may easily verify that $\log_b (N)^p = p \log_b N$, a rule that enables us to find $(N)^p$ by means of tables with a minimum of trouble. Further it

is easily shown that $\log_b (N)^{\frac{1}{q}} = \frac{1}{q} \log_b N$,

a rule that enables us to find $(N)^{\frac{1}{q}}$ at once by use of logarithm tables.

John Napier was the inventor of L , and he pub. his first work in 1614. Trigonometrical calculations had become unwieldy and his work was the result of a need for simplicity. Napierian L were calculated for functions of angles only, but Speidall improved the system and in 1619 added the L of natural numbers. In 1655 John Briggs commenced the calculation of L to the base 10. These have been extended and are now used in all

practical calculations. Briggs's tables were computed to 14 significant figures; for general calculations four-figure tables are sufficiently accurate, though seven-figure tables are often used in computations involved by measurements made to a greater degree of accuracy.

Logarithms to the base 10 and their use. In the first place since $10^1 = 10$, $\log_{10} 10 = 1$; $10^2 = 100$, $\log_{10} 100 = 2$; $10^3 = 1000$, $\log_{10} 1000 = 3$, etc. Again $10^0 = 1$, hence $\log_{10} 1 = 0$; $10^{-1} = \frac{1}{10}$, $\log_{10} 0.1 = -1$; $10^{-2} = \frac{1}{100}$, $\log_{10} 0.01 = -2$, etc. From the first part of this statement it follows that the logarithm of any number greater than 1 and less than 10 will be greater than 0 and less than 1, i.e. a decimal without an integer. The logarithm of any number greater than 10 and less than 100 will be greater than 1 and less than 2, i.e. 1 + a decimal. In general the logarithm of a number consisting of n integral numbers is $(n-1) +$ a decimal. The integral part of a logarithm is called its *characteristic* and the decimal part the *mantissa*.

Example. From tables we find that $\log_{10} 8 = 0.9031$. Find $\log_{10} 80$. $\log_{10} 80 = \log_{10} 8 + \log_{10} 10 = 0.9031 + 1 = 1.9031$. Similarly $\log_{10} 800 = 2.9031$. Thus the mantissa is the property of the number 8, the characteristic determined by the position of the decimal point.

When we come to deal with the logarithm of proper fractions we see from the second part of the statement at the beginning of the paragraph that they are negative. Thus $\log_{10} 0.8 = \log_{10} \frac{8}{10} = \log_{10} 8 - \log_{10} 10 = 0.9031 - 1 = -0.0969$. For the moment the simplicity of L seems to have disappeared as soon as we come to proper fractions. We might naturally inquire if the welcome property of the *mantissa* mentioned above can be retained for proper fractions as well. If we write $\log_{10} 0.8 = \log_{10} \frac{8}{10} = \log_{10} 8 - \log_{10} 10 = 0.9031 - 1$, or as it is usually written $\bar{1}.9031$ we get a logarithm in which only the characteristic is negative, and the mantissa is that belonging to the number 8 as before. Similarly we deduce $\log_{10} 0.08 = \bar{2}.9031$. The results may be summed up then as follows: The *mantissa* of the logarithm to the base 10 is the same for all numbers consisting of the same digits arranged in the same order. The position of the decimal point only affects the characteristic. Hence if the number whose logarithm we require consists of one or more integral figures, the characteristic is always *one less* than the number of integral figures, and it is positive. If the number is wholly a decimal, its characteristic is the same as the number of the place from the decimal point occupied by its first significant figure. This simple method is only true of L to the base 10, because that base is the same as the radix of the scale of the natural numbers. Napier's base or radix was a number denoted by e , whose value is 2.7182818 This number is defined by the mathematical series

$$e = 1 + \frac{1}{2!} + \frac{1}{3!} + \frac{1}{4!} + \dots \text{ad infinitum}$$

	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
10	0000	0043	0086	0128	0170	0212	0253	0294	0334	0374	4	9	13	17	21	26	30	34	38
11	0411	0453	0492	0531	0569	0607	0645	0682	0719	0755	4	8	12	16	20	24	28	32	37
12	0792	0828	0864	0899	0934	0969	1004	1038	1072	1106	3	7	11	14	18	21	25	28	32
13	1139	1173	1206	1239	1271	1303	1335	1367	1399	1430	3	7	10	13	16	20	23	26	30
14	1461	1492	1523	1553	1581	1614	1644	1673	1703	1732	3	6	9	12	15	18	21	24	28
15	1761	1790	1818	1847	1875	1903	1931	1959	1987	2011	3	6	9	11	14	17	20	23	26
16	2041	2068	2095	2122	2148	2175	2201	2227	2253	2279	3	5	8	11	14	16	19	22	24
17	2304	2330	2355	2380	2405	2430	2455	2480	2504	2529	3	5	8	10	13	15	18	20	23
18	2553	2577	2601	2625	2648	2672	2695	2718	2742	2765	2	5	7	9	12	14	16	19	21
19	2788	2810	2833	2856	2878	2900	2923	2945	2967	2989	2	4	7	9	11	13	16	19	21
20	3010	3032	3054	3075	3096	3118	3139	3160	3181	3201	2	4	6	8	11	13	15	17	19
21	3222	3243	3263	3284	3304	3324	3345	3365	3385	3404	2	4	6	8	10	12	14	16	18
22	3424	3444	3464	3483	3502	3522	3541	3560	3579	3598	2	4	6	8	10	12	14	15	17
23	3617	3636	3655	3674	3692	3711	3729	3747	3766	3784	2	4	6	7	9	11	13	15	17
24	3802	3820	3838	3856	3874	3892	3909	3927	3945	3962	2	4	5	7	9	11	12	14	16
25	3979	3997	4014	4031	4048	4065	4082	4099	4116	4133	2	3	5	7	9	10	12	14	15
26	4150	4166	4183	4200	4216	4232	4249	4265	4281	4298	2	3	5	7	8	10	11	13	15
27	4314	4330	4346	4362	4378	4393	4409	4425	4440	4456	2	3	5	6	8	9	11	13	14
28	4472	4487	4502	4518	4533	4548	4564	4579	4594	4609	2	3	5	6	8	9	11	12	14
29	4624	4639	4654	4669	4683	4698	4713	4728	4742	4757	1	3	4	6	7	9	10	12	13
30	4771	4786	4800	4814	4829	4843	4857	4871	4886	4900	1	3	4	6	7	9	10	11	13
31	4914	4928	4942	4955	4969	4983	4997	5011	5024	5038	1	3	4	6	7	8	10	11	12
32	5051	5065	5079	5092	5105	5119	5132	5145	5159	5172	1	3	4	5	7	8	9	11	12
33	5185	5198	5211	5224	5237	5250	5263	5276	5289	5302	1	3	4	5	6	8	9	10	12
34	5315	5328	5340	5353	5366	5378	5391	5403	5416	5428	1	3	4	5	6	8	9	10	11
35	5441	5453	5465	5478	5490	5502	5514	5527	5539	5551	1	2	4	5	6	7	9	10	11
36	5563	5575	5587	5599	5611	5623	5635	5647	5658	5670	1	2	4	5	6	7	8	10	11
37	5682	5694	5705	5717	5729	5740	5752	5763	5775	5786	1	2	3	5	6	7	8	9	10
38	5798	5809	5821	5832	5843	5855	5866	5877	5888	5899	1	2	3	5	6	7	8	9	10
39	5911	5922	5933	5944	5955	5966	5977	5988	5999	6010	1	2	3	4	5	7	8	9	10
40	6021	6031	6042	6053	6064	6075	6085	6096	6107	6117	1	2	3	4	5	6	8	9	10
41	6128	6138	6149	6160	6170	6180	6191	6201	6212	6222	1	2	3	4	5	6	7	8	9
42	6232	6243	6253	6263	6274	6284	6294	6304	6314	6325	1	2	3	4	5	6	7	8	9
43	6335	6345	6355	6365	6375	6385	6395	6405	6415	6425	1	2	3	4	5	6	7	8	9
44	6435	6444	6454	6464	6474	6484	6493	6503	6513	6522	1	2	3	4	5	6	7	8	9
45	6532	6542	6551	6561	6571	6580	6590	6599	6609	6618	1	2	3	4	5	6	7	8	9
46	6628	6637	6646	6656	6665	6675	6684	6693	6702	6712	1	2	3	4	5	6	7	8	9
47	6721	6730	6739	6749	6758	6767	6776	6785	6794	6803	1	2	3	4	5	6	7	8	9
48	6812	6821	6830	6839	6848	6857	6866	6875	6884	6893	1	2	3	4	5	6	7	8	9
49	6902	6911	6920	6928	6937	6946	6955	6964	6972	6981	1	2	3	4	5	6	7	8	9
50	6990	6998	7007	7016	7024	7033	7042	7050	7059	7067	1	2	3	4	5	6	7	8	9

	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
51	7076	7084	7093	7101	7110	7118	7126	7135	7143	7152	1	2	3	3	4	5	6	7	8
52	7160	7168	7177	7185	7193	7202	7210	7218	7226	7235	1	2	2	3	4	5	6	7	7
53	7243	7251	7259	7267	7275	7284	7292	7300	7308	7316	1	2	2	3	4	5	6	6	7
54	7324	7332	7340	7348	7356	7364	7372	7380	7388	7396	1	2	2	3	4	5	6	6	7
55	7404	7412	7419	7427	7435	7443	7451	7459	7466	7474	1	2	2	3	4	5	5	6	7
56	7482	7490	7497	7505	7513	7520	7528	7536	7543	7551	1	2	2	3	4	5	5	6	7
57	7559	7566	7574	7582	7589	7597	7604	7612	7619	7627	1	2	2	3	4	5	5	6	7
58	7634	7642	7649	7657	7664	7672	7679	7686	7694	7701	1	1	2	3	4	4	5	6	7
59	7709	7716	7723	7731	7738	7745	7752	7760	7767	7774	1	1	2	3	4	4	5	6	7
60	7782	7789	7796	7803	7810	7818	7825	7832	7839	7846	1	1	2	3	4	4	5	6	6
61	7853	7860	7868	7875	7882	7889	7896	7903	7910	7917	1	1	2	3	4	4	5	6	6
62	7921	7931	7938	7945	7952	7959	7966	7973	7980	7987	1	1	2	3	4	4	5	6	6
63	7993	8000	8007	8014	8021	8028	8035	8041	8048	8055	1	1	2	3	3	4	5	5	6
64	8062	8069	8075	8082	8089	8096	8102	8109	8116	8122	1	1	2	3	3	4	5	5	6
65	8129	8136	8142	8149	8156	8162	8169	8176	8182	8189	1	1	2	3	3	4	5	5	6
66	8195	8202	8209	8215	8222	8228	8235	8241	8248	8254	1	1	2	3	3	4	5	5	6
67	8261	8267	8274	8280	8287	8293	8299	8306	8312	8319	1	1	2	3	3	4	5	5	6
68	8326	8331	8338	8344	8351	8357	8363	8370	8376	8382	1	1	2	3	3	4	4	5	6
69	8388	8395	8401	8407	8414	8420	8426	8432	8439	8445	1	1	2	2	3	4	4	5	6
70	8451	8457	8463	8470	8476	8482	8488	8494	8500	8506	1	1	2	2	3	4	4	5	6
71	8513	8519	8525	8531	8537	8543	8549	8555	8561	8567	1	1	2	2	3	4	4	5	5
72	8573	8579	8585	8591	8597	8603	8609	8615	8621	8627	1	1	2	2	3	4	4	5	5
73	8633	8639	8645	8651	8657	8663	8669	8675	8681	8686	1	1	2	2	3	4	4	5	5
74	8692	8698	8704	8710	8716	8722	8727	8733	8739	8745	1	1	2	2	3	4	4	5	5
75	8751	8756	8762	8768	8774	8779	8785	8791	8797	8802	1	1	2	2	3	3	4	5	5
76	8808	8814	8820	8825	8831	8837	8842	8848	8854	8859	1	1	2	2	3	3	4	5	5
77	8865	8871	8876	8882	8887	8893	8899	8904	8910	8915	1	1	2	2	3	3	4	5	5
78	8921	8927	8932	8938	8943	8949	8954	8960	8965	8971	1	1	2	2	3	3	4	4	5
79	8976	8982	8987	8993	8998	9004	9009	9015	9020	9025	1	1	2	2	3	3	4	4	5
80	9031	9036	9042	9047	9053	9058	9063	9069	9074	9079	1	1	2	2	3	3	4	4	5
81	9085	9090	9096	9101	9106	9112	9117	9122	9128	9133	1	1	2	2	3	3	4	4	5
82	9138	9143	9149	9154	9159	9165	9170	9175	9180	9186	1	1	2	2	3	3	4	4	5
83	9191	9196	9201	9206	9212	9217	9222	9227	9232	9238	1	1	2	2	3	3	4	4	5
84	9243	9248	9253	9258	9263	9269	9274	9279	9284	9289	1	1	2	2	3	3	4	4	5
85	9294	9299	9304	9309	9315	9320	9325	9330	9335	9340	1	1	2	2	3	3	4	4	5
86	9345	9350	9355	9360	9365	9370	9375	9380	9385	9390	1	1	2	2	3	3	4	4	5
87	9395	9400	9405	9410	9415	9420	9425	9430	9435	9440	0	1	1	2	2	3	3	4	4
88	9445	9450	9455	9460	9465	9470	9474	9479	9484	9489	0	1	1	2	2	3	3	4	4
89	9494	9499	9504	9509	9513	9518	9522	9528	9533	9538	0	1	1	2	2	3	3	4	4
90	9542	9547	9552	9557	9562	9566	9571	9576	9581	9586	0	1	1	2	2	3	3	4	4
91	9590	9595	9600	9605	9609	9614	9619	9624	9628	9633	0	1	1	2	2	3	3	4	4
92	9638	9643	9647	9652	9657	9661	9666	9671	9675	9680	0	1	1	2	2	3	3	4	4
93	9685	9689	9694	9699	9703	9708	9713	9717	9722	9727	0	1	1	2	2	3	3	4	4
94	9731	9736	9741	9745	9750	9754	9759	9763	9768	9773	0	1	1	2	2	3	3	4	4
95	9777	9782	9786	9791	9795	9800	9805	9809	9814	9818	0	1	1	2	2	3	3	4	4
96	9823	9827	9832	9836	9841	9845	9850	9854	9859	9863	0	1	1	2	2	3	3	4	4
97	9868	9872	9877	9881	9886	9890	9894	9899	9903	9908	0	1	1	2	2	3	3	4	4
98	9912	9917	9921	9926	9930	9934	9939	9943	9948	9952	0	1	1	2	2	3	3	4	4
99	9956	9961	9965	9969	9973	9978	9983	9987	9991	9996	0	1	1	2	2	3	3	4	4

Its importance is due to the fact that for all values of x less than 1,

$$\log_e (1 + x) = x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \dots \text{ad infinitum.}$$

Algebraical analysis enabled Napier to compute his L. to the base e by means of this expansion of $\log_e (1 + x)$, and L. to the base 10 are computed from an expression derived from the one above. It is shown in text-books on algebra that $\log_{10} (n + 1) - \log_{10} n = \frac{1}{n} - \frac{1}{2n^2} + \frac{1}{3n^3} - \dots$ where $\mu = \log_e$.

$10 = 0.43429448 \dots$ Hence if the logarithm of one number to the base 10 is found, the logarithm of the next number can be computed. Repeated application of this formula results in the table of L. with which we are familiar.

The reverse process of finding, from the tables, the number when the logarithm is given is also done in two parts. The *mantissa* is considered first; from it the actual digits of the number are found; the whole-number part of the logarithm, the characteristic, then gives the position of the decimal point. These results can also be obtained from antilogarithm tables, on which the L. are arranged round the edge of the table and the numbers in the centre. See also MATHEMATICS; SLIDE RULE. See W. Chanin, *Logarithms in Commerce*, 1931; Sir C. V. Boys, *Natural Logarithm*, 1935; F. W. Chambers, *Arithmetic of Logarithms*, 1935; and H. S. Hall and S. R. Knight, *Higher Algebra*, 1940. Good four-figure tables are those of Godfrey and Siddons, while Chambers's *Seren-figure Mathematical Tables* are invaluable for accurate work.

Logau Friedrich, Freiherr, von (1604-1656), Ger. poet, b. at Brookut, near Nimptsch in Silesia. He studied law at Biele and Frankfurt, and entered the legal service of the duchy of Liegnitz as chancery councillor. He is chiefly famous as a writer of epigrams. He joined the Fruchtbringende Gesellschaft, the most important of Ger. literary and linguistic societies, in 1648. Under the pseudonym 'Salomon von Golow' he pub. a collection of epigrams, *Zweyhundert deutscher Reimsprüche* (1638). A selection from his *Sinngedichte* was made by K. W. Ramler and G. E. Lessing in 1759, and a complete ed. of his works by G. Eitner in 1876.

Log-book, book into which the contents of the log-board or rough L. are transcribed daily. The columns of the L. make provision for the nature and velocity of the wind, the state of the weather, the observed lat. and long., the course, progress, etc. Under the heading 'Remarks' are entered the employment of the crew, the times of passing prominent landmarks, any alteration of the course, signals made and exchanged, drills performed, etc., and in the case of sailing ships the making, shortening, and trimming of sails. The deck L. is kept by the officer of the watch, is copied into the ship's L. which is the official L., by the navigating officer in charge, and is then initialled by the officer on watch. In

steam vessels rough and fair engine-room registers are kept, giving information as to the state of the engines, etc. All ships in the Brit. Mercantile Marine are compelled to keep an official L. in a form approved by the Board of Trade. Various Ls. are used in aircraft, the pilot's L. being the most important.

Loggan, David (1635-93), Ger. engraver and designer, b. at Danzig. He settled in London and pub. *Engravings of the Colleges of Oxford* (1690), and later similar engravings of the colleges of Cambridge. At the court of Charles II. he engraved sev. portraits of the king and of his courtiers.

Loggia, It. name for an arcade composed of galleries and verandas roofed over, but open to the air on one side.

Logging, see LUMBER AND LUMBERING. Logia (Gk. *Λογια*, oracles). Papias, a writer of the second century, who is said to have been a disciple of St. John, wrote that 'Matthew composed the oracles (*Λογια*) of the Lord in the Hebrew tongue.' It has been one of the tasks of modern biblical criticism to find out what these L. were. The most probable suggestion is that they were a collection of passages from the Heb. Bible such as were susceptible of a Messianic interpretation. Such collections must have been made by the early Christians, who aimed particularly at showing how Jesus fulfilled the Messianic prophecies. It is notable that St. Matthew's Gospel is marked by its insistence on this.

Logic may be most briefly defined as the study of the general conditions of valid inference. The three 'products of thought', the instruments employed by the logician are the term, the proposition or premise, and the inference. (1) A term may be said to denote an individual or a group of individuals or to connote an attribute or a group of attributes. (2) A proposition or premise asserts or denies one term or another as the result of comparison e.g. 'All triangles are bounded by three sides.' Here the term 'bounded by three sides' (an attribute) is called the predicate, while the term 'all triangles' (a group of individuals) is called the subject; the connecting verb 'are belongs to the copula. Thus 'bounded by all sides' is said to be predicated of 'all triangles'. Propositions or premises may be subdivided (a) according to quality, i.e. affirmative or negative, or (b) according to quantity, i.e. universal ('All men are fools') or particular ('Some men are fools'). There is a further possible subdivision into universal-affirmative ('All X is Y'), universal-negative ('No X is Y'), particular-affirmative ('Some X is Y'), and particular-negative ('Some X is not Y'). The most important part of L. deals with inference, i.e. the process of combining two propositions or premises so as to arrive at a proposition distinct from any that has preceded. Inferences are of two kinds, inductive and deductive. (1.) *Induction*, or inference from the particular to the universal. *Analogy*, or inference from the particular to an adjacent particular is

a form of imperfect induction, and, though justifying a more or less probable conclusion, never leads to certainty (e.g. War between A and B is wicked. War between A and B is similar to war between A and C. Therefore war between A and C is wicked). (ii.) *Deduction* or syllogism is inference from the universal to the particular (e.g. All war is wicked. War between A and B is war. Therefore war between A and B is wicked). Syllogisms may be combined in what is called a 'train of reasoning,' and the complex or hypothetical syllogism may be employed in which one or more complex (or hypothetical) premises occur. A complex premise is a combination of two or more simple premises in one sentence, in such a manner that the truth or falsity of one premise or set of premises is made to depend on the truth or falsity of the other premise or set of premises; when dependent on the truth of the one premise or group of premises, the complex premise is termed conjunctive, when upon the falsity, disjunctive. A conjunctive syllogism is a syllogism one or both of whose premises are conjunctive premises; a disjunctive syllogism one whose major premise is a disjunctive and the minor a simple proposition, the latter affirming or denying one of the alternatives stated in the former. A *dilemma* occurs when one premise of the complex syllogism is a conjunctive and the other a disjunctive premise (e.g. If A is B, C is D, and E is F; but either C is not D or E is not F; therefore A is not B).

The foundations of L. were laid by Plato, but Aristotle was the first to produce a definite and developed system of L. in the *Organon*. Among lat. schools of ant. philosophy the Stoics, Epicureans, Sceptics, and Neoplatonists all contributed to the science of L. To Abelard (1079-1142) is due in great measure the revival of L. in the twelfth century, his disciple John of Salisbury shows acquaintance with the entire *Organon*. St. Thomas Aquinas consolidated this advance in the thirteenth century. Thereafter L. tended to become a lifeless classification or meaningless dialectic in the hands of Wm. of Occam and the Nominalists until the Renaissance humanists revolted. Francis Bacon (1561-1626) in his *Novum Organum* introduced his 'new' inductive L. to replace Aristotelian deductive L. Modern L. has developed along the lines of empiricism (Hobbes, Locke, Hume, and J. S. Mill) and, in strong contrast, along that of Rationalism (Spinoza and Leibniz) and the transcendentalism of Kant. See J. S. Mill, *A System of Logic*, 1843; W. S. Jevons, *Elementary Lessons in Logic*, 1876; J. Walton, *Manual of Logic*, 1891; W. E. Johnson, *Logic*, 1921-24; A. Wolf, *Textbook of Logic*, 1930; L. S. Stebbing, *Thinking to Some Purpose*, 1939, and *Modern Introduction to Logic*, 1940; and A. N. Prior, *Logic and the Basis of Ethics*, 1949.

Logical Positivism, see **POSITIVISM, LOGICAL**.

Logistics, term used for the military science of quartering and moving men and

equipment. See **ARMY; COMMISSARIAT**. **Logos** (Gk. *λογος*), as a theological term has no exact counterpart in any other language. The use of *verbum*, word, in the Vulgate is perhaps the least satisfactory of sev. which have from time to time been adopted. In Gk. philosophy, as illustrated especially in Heraclitus of Ephesus and Anaxagoras, and among the Stoics, L. is the divine reason regarded as immanent in the cosmic process. But their systems are rather forms of pantheism, recognising no transcendent god and teaching that this truth or reality (half hidden, half revealed in the visible world) can be found in the self.

In the Septuagint L. signifies the uttered word of wisdom of God expressed in the threefold process of creation, providence, and revelation. Philo and the Alexandrian-Jewish school combined these two originally separate meanings, so that Philo's L. may be said to correspond to Plato's idea of the good endowed with the creative activity or universal causality of the Stoics. Thus arose the Christian use of the term applied to the Second Person of the Trinity. Heretical teaching in the early Church tended to include the person of Christ with the imaginary hierarchy of intermediary spirits or emanations between God and man. To all such views the L. of St. John's prologue was an effective barrier. It owes much to Philo and assumes that those to whom it is addressed are familiar not only with his thought but also with sev. of his technical terms. Somewhat later the apologists, Justin, Tatian, Athenagoras, sought to reconcile Christian doctrine with the *λογος σπερματικός* of the Stoics. See J. Réville, *La Doctrine du Logos dans le quatrième évangile et dans les œuvres de Philon*, 1881; A. Harnack, *History of Dogma* (trans.), 1894-99; A. Aall, *Der Logos*, 1896-99; and J. Lebreton, *Histoire du dogme de la Trinité*, 1928.

Logroño: l. is. prov. of N. Spain, S. of the R. Ebro. The Ebro basin is very fertile, producing cereals, olive oil, fruit, and the noted red Rioja wines. Iron, silver, lead, copper, and lignite are found. Area 1,498 sq. m. Pop. 233,200. 2. (Ant. Lucronus), cap. of the above, an ant. walled tn. with a twelve-arched bridge across the Ebro dating from 1138. It is on the r. b. of the Ebro, 30 m. S.S.E. of Vitoria, in the centre of the wine dist. Pop. 56,000.

Loharu, state of E. Punjab, India. Area 222 sq. m. Pop. 31,000. The cap. is Loharu. Pop. 3000.

Lohengrin, hero of an old High Ger. poem of the thirteenth century. He was the son of Parsifal and one of the knights of the Holy Grail. At King Arthur's command he was carried to Mainz in a car drawn by a swan to rescue Elsa, daughter of the duke of Brabant. He overthrew her enemy, Telramund, and married Elsa. In spite of her promise not to question him, she insisted on demanding his origin. Twice he persuaded her not to question him, but on her asking a third time he told her, and immediately was carried away by the swan-drawn car to

return to the Grail. Rückert's ed. of the poem (1857) is the best. It is a continuation of Wolfram von Eschenbach's *Parzival*. Wagner founded his opera *Lohengrin* (1848) on this legend.

Loidis, see LEKDS.

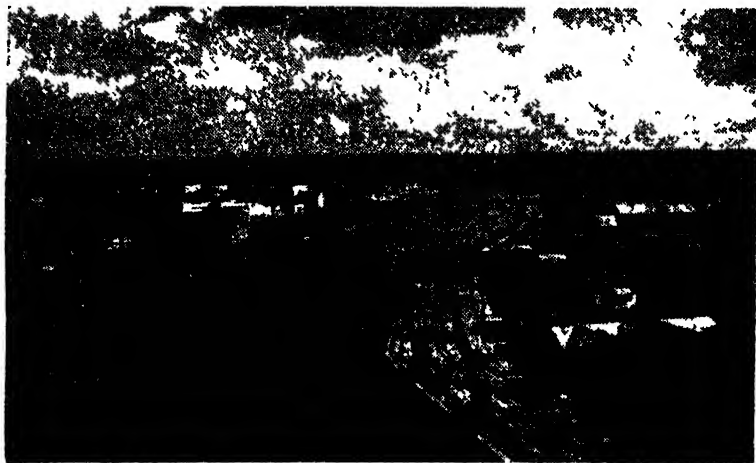
Loigny, vil. in the dept. of Eure-et-Loir, France, 29 m. S.S.E. of Chartres. The Gers. were here defeated by the Fr. in Dec. 1870. Pop. 400.

Loir, riv. of France, rising in Eure-et-Loir dept. and flowing S.W. It joins the Sarthe near Angers. Length 180 m.

Loire: 1. Longest riv. in France, rises in the Gerbier-de-Jonc (dept. Ardèche) at a height of 4500 ft., and flows N. and N.W.,

Rhone. The dept. is largely mountainous, but the plains of Forez and Roanne provide good agric. and pasture lands. The vine is grown in the valley of the Rhone. The basin of the St. Etienne is one of the richest coal dists. of France, and iron and lead are mined in large quantities. The chief manufs. are glass, ribbons, silk, cast steel, hardware, machinery, and cutlery. Cap. St. Etienne. Area 1852 sq. m. Pop. 631,500.

Loire, Haute-, dept. of S.E. France, formed from parts of Languedoc, Lyonnais, and Lower Auvergne, and divided into three arrons., Le Puy (cap.), Brioude, and Yssingeaux. Situated on the central



THE LOIRE AT NANTES

Yvon, Paris

S.W., and finally W. for a total distance of 625 m., until it flows into the bay of Biscay between Palmbœuf and St. Nazaire. Its chief tribs. are the Allier, Cher, Indre, Vienne, Thouet, and Sèvre Nantaise on the l. b., and the Arroux and Maine on the r. b. Navigation of the L. is difficult owing to the shrinking of the stream in times of drought and the frequent floods at other times. Dykes have been erected at sev. places, the most important being the circular dyke at Tours. The Maritime Canal of the L. (9½ m. long), opened in 1892, enables large ships to ascend to Nantes. The 'lateral canal of the Loire' accompanies the riv. from Roanne to Briare and thence proceeds to the Seine. The châteaux of Chambord, Chenonceaux, and others in the L. dist. are among the most famous in France. 2. Dept. of Central France formed from the old dist. of Forez and parts of Beaujolais and Lyonnais, is bounded on the N. by the dept. of Saône-et-Loire, and S. by Ardèche and Haute-Loire. It is drained in the N. by the L. and its tribs. and in the S.E. by the tribs. of the

plateau of France, it is traversed by four mt. ranges running from N. to S., viz. the Vivarais and its continuation the Bontieres Chain, the Massif du Mègal, the Velay Mts., and the Margeride Mts. There are numerous signs of volcanic activity. Chief rivs., the Loire, with its tribs. the Borne and Lignon, and the Allier. The climate is cold. Rye, oats, barley, wheat, lentils, peas, and root crops are grown, and cattle and goats are largely reared. Coal and antimony are mined, and there is a large lace-making industry. Area 1930 sq. m. Pop. 228,000.

Loire-Inférieure, maritime dept. of W. France, formed from part of auct. Brittany and the dist. of Retz, and lying between the bay of Biscay on the W. and Maine-et-Loire on the E. The surface is very flat, and is drained by the Loire, with its tribs. the Erdre and the Sèvre, and the Isac, a trib. of the Vilaine. The refining of the salt from the marshes between the Vilaine and the Loire is an important industry. Horse- and cattle-breeding prospers, and cereals, vines, flax, and fruit are cultivated. There are deposits of tin,

lead, and iron. There are foundries and shipbuilding yards at Nantes and St. Nazaire. The chief manufs. are hemp, linen, paper, sugar, biscuits, and soap. The cap. is Nantes. Area 2093 sq. m. Pop. 665,000.

Loiret, dept. of Central France, formed from the ant. prov. of Orléanais, with parts of Ile-de-France and Berry, and lying S.W. of Seine-et-Marne, W. of Yonne, and N.E. of Loir-et-Cher. The Loire valley in the S. of the dept., in spite of the frequent floods, is famed for its fertility and vineyards. A great part of the surface is covered by forests, but the plateau of Orléans is very fertile. All branches of agriculture form the chief industries. The chief manufs. are bricks and tiles, porcelain, leather, machinery, hosiery, and sugar. Cap. Orléans. Area 2629 sq. m. Pop. 346,900.

Loir-et-Cher, dept. of Central France, formed from portions of Orléanais and Touraine, and bounded on the N. by Eure-et-Loir, on the S. by Indre. It is drained by the Loir in the N., the Loire in the centre, and the Cher in the S. A large part of the surface is covered by forests, but in the riv. basins there are rich agric. dists., wheat and oats being largely cultivated. There are rich pasture lands, and fruit and vines grow well. Cloth and other woollens, gloves, leather, and glass are manufactured, and there are large distilleries. Stone and alabaster are quarried. Cap. Blois. Area 2475 sq. m. Pop. 212,200.

Loisy, Alfred Firmin (1857-1940), Fr. modernist theologian, b. at Ambrières, Marne. He studied at the Rom. Catholic theological seminary, Châlons, and was ordained priest in 1879. He was prof. of Heb. and biblical literature at the Institut Catholique, Paris, 1881-93, and lecturer at the École des Hautes Études, Sorbonne, 1900-1. From both these posts he was dismissed, and he was excommunicated in 1908. In 1909 he became prof. of church hist. at the Collège de France. There is considerable literature on the L. controversy, which arose out of his *L'Évangile et l'Église* (1902), which was a Catholic's reply to C. G. Harraek's *Il est des Chrétiens*. His excommunication came after the pub. of his most important work, *Les Évangiles synoptiques* (1907-8). Other works are *Les Actes des Apôtres* (1920); *L'Apocalypse de Jean* (1921); *Mémoires pour servir à l'histoire religieuse de notre temps* (1930); and *La Naissance du Christianisme* (1932). See studies by M. J. Lagrange, 1932, and M. D. Petro, 1911. *Loitane*, see *LITON*.

Loja, or **Loxa**, cap. of a prov. of the same name in the republic of Ecuador. (Cinchona bark is obtained in the neighbourhood. There is an airfield and a wireless station. Area of prov. 3705 sq. m. Pop. of tn. 18,000; of prov. 198,100.

Loja, city in the prov. of Granada, S. Spain, in a beautiful valley traversed by the R. Genil. Salt is found in the neighbourhood, and there are manufs. of woollens, silk, paper, and leather. It was one of the last Moorish strongholds. Pop. 20,500.

Lokeren, tn. of Belgium in the prov. of E. Flanders, 12 m. E.N.E. of Ghent, on the R. Durme. There is agriculture, and manufs. of linen, cotton, silk, wool, carpets, furs, ropes, chemicals, and tobacco. There is an active trade in flax, cattle, corn, hemp, and oil. Pop. 25,400.

Loket, see *ELBOGIN*.

Lokoja, tn. and cantonment of N. Nigeria, Africa, near the junction of the Rs. Niger and Benue. Pop. 7000.

Lollards, The (from Dutch *lollaerd*, a mumblor, mutterer, from *lollen*, to mutter), name applied at the end of the fourteenth century to the followers of Wycliffe (*q.v.*) and others who shared his tenets. The movement was to a large extent independent of Wycliffe. All over the country there was discontent with the eccles. and civil order. Wycliffe represents this discontent among the learned, and there is no doubt that his individualistic views were spread far and wide by his 'poor priests,' whose lives and preaching compared favourably with those of the friars. But many had already come to similar conclusions on their own initiative. The L. underwent much persecution, the chief statute against them being the *De Heretico Comburendo* in 1400, under which many were burnt. Lollardism was forced beneath the surface, but did not die out even after the death of Sir John Oldcastle under Henry V., but remained to give impetus to the Reformation. Many took in hand to reason against Lollardism, but the only successful writer was Bishop Reginald Pecock (*q.v.*). See J. Gairdner, *Lollards and the Reformation in England*, 1908; G. M. Trevelyan, *England in the Age of Wycliffe*, 1908; and K. B. McFarlane, *John Wycliffe and the Lollards*, 1950.

Loime, Jean Louis de (1740-1806), Swiss jurist, b. at Geneva, where he practised as a lawyer. In 1771 he pub. his chief work, *Constitution de l'Angleterre*, which was held in high esteem for many years. His other works include *Parallèle between the English Government and the former Government of Sweden* (1772) and *History of the Huguenots* (1782).

Losos, or **Nesus**, Chinese name for an aboriginal tribe which inhabits the mountainous country called Taliangshan, which lies between the Yangtszekiang and the Chienchang valley.

Lombard, Lambert (1506-60), Flemish painter, engraver, and artist. He was also known by the names of Lamprecht Susterman, Smevius, and Schwab.

Lombard, Peter (c. 1100-c. 1160), It. scholastic theologian and philosopher, b. at Novara in Lombardy. He is often referred to as 'magister Sententiarum' because of his famous *Sentences*, i.e. opinions. These are divided into four books, dealing with the Trinity, Creation, Incarnation, and the sacraments. L. divided each book into questions; later the questions were subdivided into distinctions and chapters, thus fixing the form of most later scholastic treatises. His aim was to unite the then received theology into a body giving weight both to scripture and reason. The Book of the Sentences' became after his death the

accepted manual of theology until the *Summa Theologica* of St. Thomas Aquinas (1225-74) gradually supplanted it. See life by F. Protoles, 1881.

Lombardic Architecture, style developed in the N. of Italy by the Lombards after the Gothic invasion, when Goths and natives had fused into one race. Its rise dates from the time of Charlemagne, and a few monuments remain from the eighth century. But the great architectural period was the eleventh and twelfth centuries. To the early part of this belongs the church of S. Antonio at Piacenza, dedicated in 1014. A later example is the cathedral of Novara, and later still we may note S. Michele at Pavia. S. Ambrogio at Milan is also Lombardic. L. A. is based primarily on Rom. tradition, though in detail it discards the debased forms of the later empire in favour of Byzantine importations.

Lombards, The: 1. Anct. Germanic tribe (see LONGOBARDI). 2. Class of It. merchants, brokers, and bankers who settled in England from the thirteenth to the sixteenth century. It is certain that all did not come from Lombardy, yet it is likely that the enterprise and intelligence they displayed were in large measure due to the fusion of Lombard blood with the indigenous It. In 1338 Edward III. pledged his jewels to the L. in order to raise money for his Fr. wars, and Henry V. did likewise in 1415. In that they were usurers and pawnbrokers they were unpopular, like the Jews, who, until their expulsion in 1290, had largely controlled those occupations. The L. first arrived in England in the reign of Henry III. (1216-72), and were formally banished by Queen Elizabeth. But prior to her reign Eng. merchants had already largely usurped their functions. It is related that Edward II. handed over as much as £56,000 to the Frescobaldi in payment of his father's debts, whilst the wealthy firms of the Peruzzi and Bardi, the leading L. of the day, were actually ruined by Edward III., who was never able to redeem his pledges. Lombard Street in the city of London, often reputed the wealthiest of the metropolis, commemorates their former residence in the neighbourhood. See T. Hodgkin, *Italy and her Invaders*, A.D. 376-303, 1892-1916; 2nd ed., vols. v. and vi. (*The Lombard King dom*). For hist. of the Lombard League see C. Vignati, *Storia diplomatica della Lega Lombarda*, 1886.

Lombardy, region of N. Italy, bounded on the N. by the Alps, on the E. by Venetia, on the S. by Emilia, and westward by Piedmont. It includes part or whole of Lakes Maggiore, Lugano, Como, Garda, Isco, and Varese, and is drained by the Po, which is a S. frontier, and the Ticino, a trib. of that riv., flowing along the W. boundary. The highlands are devoted to pastures, the lower slopes to chestnuts, etc., vines, and silk culture, and the fertile plains to mulberries, maize, wheat, flax, and rice. Milan, the chief railway centre of the country, is also the most flourishing silk market in the world, whilst silk-weaving is the main industry of

Como. There is some mineral working. L. is divided into the provs. of Bergamo, Brescia, Como, Cremona, Mantua, Milan, Pavia, and Sondrio. Area 9191 sq. m. Pop. 6,298,000.

The culture of L., from 500 B.C. to the nineteenth century has been rich and vital. Gk. and Rom. bronzes, MSS., and other treasures have been preserved. The Byzantine Empire and the Longobards (q.v.) added their own vitality. A gold and silver campaigning cross at Brescia Cathedral is a relic of the incursions of Frederick Barbarossa. Fr. rule in the sixteenth century is represented by Clouet's 'Portrait of Saint Marsault,' also at Brescia. Spain and Austria later left their mark. Notable paintings are Titian's altar-piece in the church of SS. Nazaro and Celso in Brescia, and Correggio's 'Portrait of a Man' in the Castello Sforzesco. See A. K. Porter, *Lombard Architecture*, 1915-17.

Lombardy Poplar, see under POPLAR. **Lombok**, called also Selaparan, is. of the Malay Archipelago, Dutch E. Indies, situated eastward of Java between lat. 8° 12' and 9° 1' S., and long. 115° 46' and 116° 40' E.; it is separated W. from Bali by L. Strait and E. from Sumbawa by the Strait of Alas. The area is 3136 sq. m. Two mt. chains extend along the N. and S. coasts, the former being volcanic. Between the ranges are well-watered fertile plains, where sugar, coffee, maize, indigo, cotton, and tobacco are cultivated. The cap. is Mataram and the chief port Ampanan, situated on the W. coast. The is. was captured, together with Bali, by the Jap. in Feb. 1912, but reverted to the Dutch in 1945. Pop. (with Bali) 1,802,000.

Lombroso, Cesare (1836-1919), It. criminologist and prof. of forensic medicine, later prof. of criminal anthropology at Turin; b. at Verona. In 1862, before holding the above positions, he was prof. of psychiatry at Pavia and then director of the Pesaro lunatic asylum. The name of this celebrated It. anthropologist is mainly associated with theories relative to the responsibility or irresponsibility of criminals and, as incidental thereto, with theories as to the physical and psychical characteristics that go to form the criminal type. For a general criticism of his theory of the evidence of a criminal type see under CRIMINOLOGY. In his last years he took up the subject of spiritualism. Chief works: *La Pellagra in Italia* (1885); *L'Uomo di genio* (1888); *L'Uomo delinquente* (1889); *La Donna Delinquente* (1893); *Delitti vecchi e delitti nuovi* (1902); *Nuovi studi sul genio* (1902); and *After Death—What?* (1909).

Lommel, tn. in the prov. of Limbourg, Belgium, 20 m. N. of Hasselt, near the Dutch border. It is one of the new industrial places of the Kempen (Campine) region. Chief manufs. are zinc, lead, tin, and bottles. Pop. 13,400.

Lomond, Loch, largest lake in Scotland, situated in the cos. of Stirling and Dumbarton. Its length is 23 m., and it varies in width from 5 m. to 4 m.; its area is 27 sq. m. It contains thirty is., of which

the largest is Inghmurrin Mts and valleys encircle the lake, and from these numerous streams fall to its banks. Its S shore near Balloch has been industrialized.

Lomonossov, Michael Vasilievich (1711-1765), Russian poet and scientist, b at Denisovka near Cholmogory, was the son of a fisherman of Archangel. In his *Klementa (hymnae Matematika)* (1711) he anticipated to some extent the atomic theory of the structure of matter, later developed by Dalton (q.v.). His other work includes poems and writings on hist. and astronomy. The former Franz Josef Land (q.v.) was named after him in 1929.

Lomonossov Land, see FRANTZ JOSEF LAND

ture (1911). A native of San Francisco, he was oyster pirate, sailor, prisoner, lecturer, and journalist, hunted seals in the Behring Sea, visited Japan and Klondyke (1897), and tramped over Canada and the U.S.A. See Charmian London, *The Book of Jack London*, 1921.

London Area and Population—The term L. is used more than one way, and it is necessary to begin by defining and distinguishing the most important of these meanings. (1) The city of L., the old L. of just occupies only 75 ac, scarcely 1 sq. m. in the centre of the huge area which is now popularly known as L. The old walled city has been swamped by the younger suburbs which have grown up all



LOCH LOMOND FROM TUNN

D. M. L. 1938

Lomza, cap. of a sub div. of Bialystok prov., Poland, an old fortified tn. on the Narev. It was taken by the Gers in 1915, restored to Poland later, was in the Russian area after the 1939 partition and fell to the Gers in 1941. On the 4 approaches to L. Prussia the Russian general, Zakharov, was checked in Aug. 1944 by the fortress of L. But the following month the Russians drove a wedge S. of the fortress and pressed toward the Narev against tenacious Ger resistance, and L. was gradually encircled from N. and S.W. On Sept. 13 L. was taken. Pop. 25,000.

London, Bishop of, see INGRAM, ARTHUR FOLLY WINNINGTON

London, John Griffith ('Jack') (1878-1916), Amer. author, especially famous for his remarkably sympathetic animal stories like *The Call of the Wild* (1903) and *White Fang* (1906). Other of his works are *The God of His Fathers* (1902), *The War of the Classes* (1905), *Moon Face* (1906), *Martin Eden* (1908); and *Aden-*

round it. It still lives as an administrative unit, with a civic constitution which would still seem familiar to a man of the Middle Ages. The estimated resident pop. of the city (1917) was 5490. (2) The modern administrative co. of L. includes the city and the surrounding dist. of 116 sq. m. with an estimated pop. in 1947 of 5,328,140 inhab. The dist. is under the local government of the L.C.C. and it is the area which perhaps most nearly approximates to the ordinary meaning of the term L. (3) There is, however, a still wider use of the term, the greater L., which is practically the Metropolitan Police Dist., together with the city of L., which, roughly, includes all parts within 15 m. of Haring Cross, and therefore comprises the co. of Middlesex and parts of the cos. of Hertfordshire, Essex, Kent, and Surrey. This greater L. has an area of 470,791 ac, with an estimated pop. in 1947 of 8,244,370. This area, at the moment, contains what are in fact still rural dists., but the growth

of the suburbs is rapidly making the smaller L.C.C. area an illogical definition of the term. (4) There are still other definitions of L., but the above are the main significations of the word.

Government.—1. The chief local governing body in the L. area is the L.C.C., controlling the first and second of the dists. described above. It was created by the Local Government Act, 1888. The council consists of 124 co. councillors, elected (in pairs, except the city of L., which has four councillors) in its parl. divs. The elections take place every three years, the electors being the co. and parochial electors. In 1945 there were 2,120,323 electors on the registers. The councillors may elect twenty aldermen for six years, and a chairman for a term of one year. The enormous powers of the L.C.C. can only be briefly suggested here. The council is the prin. money-raising body for all the local authorities in the co., and has a net debt, according to the most recently pub. return (1945), of £79,430,365 (£51,988,646 of which represents debt incurred for housing), and an ann. expenditure on revenue account of some £86,931,561. All borrowings of the council are subject to the provisions of a sinking fund, under Treasury approval, sufficient to repay all expenditure generally within a period of sixty years (in some cases the limit is eighty years). The total stock outstanding at the end of the financial year, 1936, was £128,749,784. The total assessable value of the area in 1947-48 was £101,081,293 (a fall occurred with the derating measures of 1929-30 and again in 1936 owing mainly to a fall in rental values in the city and the central bors., but the leeway was soon made up). On this area the council raised in total rates (1944-45) the sum of £31,572,342, for use in its various activities. Expenditure on education in 1946-47 was £16,992,340. The expenditure on rate accounts on other main heads in 1946-1947 was estimated to be, approximately: public health, £11,147,500; social welfare, £5,694,000; emergency services, £1,876,680 (there is an emergency hospital scheme); fire service, £1,384,800; housing (net deficiency), £1,250,000; main drainage, £1,185,000; means of communication, £1,187,000; other services, £1,868,800. The gross loan debt outstanding in 1945 was £128,749,784. By the Local Government Act of 1929 the L.C.C. now functions in place of the old Guardians of the Poor. 2. By the London Government Act, 1899, the older vestries and other bodies were abolished in the L. area, and their place was taken by twenty-eight metropolitan bors.: Battersea, Bermondsey, Bethnal Green, Camberwell, Chelsea, Deptford, Finsbury, Fulham, Greenwich, Hackney, Hammersmith, Hampstead, Holborn, Islington, Kensington (royal bor.), Lambeth, Lewisham, Paddington, Poplar, St. Mary-lebone, St. Pauls, Shoreditch, Southwark, Stepney, Stoke Newington, Wandsworth, Westminster, and Woolwich. These names are given in full, for besides their present administrative importance they represent the most important of the

anct. divs. of the area of L., as will be seen later. Each of these bors. is governed by a council of from thirty to sixty councillors who appoint aldermen up to one-sixth of their own number, and who also choose a mayor. The councillors are elected by the persons whose names are on the parl. and local gov. registers, and the elections take place every three years. The chief functions of the bor. councils are to perform the duties of a public health and highway authority, concerning nuisances, local drainage, lighting, and paving the streets, etc.; also the provision of libraries, baths, and wash-houses, etc. There has at times been friction between the L.C.C. and the bor. councils, the view of the latter, as a whole, being that there should be a greater degree of decentralisation. In 1933 a Transfer of Powers Order was passed, but it gave the bor. councils far less than they wanted. The common interests of the bor. councils are voiced, and their common battles fought, by their Standing Joint Committee, a voluntary organisation little known to the public, yet one of the most important local gov. bodies in the metropolis. The committee was formed in 1912, and the City Corporation is a member. Its functions are to perfect and advance the powers, rights, interests, and privileges of the bor. councils; it speaks on equal terms with the L.C.C. and does not hesitate to rebuke ministers of the Crown. It consists of three representatives from each bor. council, of whom the tn. clerk is usually one. It meets monthly, but much of its work is done by sub-committees.

3. Considered generally, the city of L., except for certain powers of the L.C.C., is an isolated, self-governing, and independent unit of L. Thus it has its own police, quite independent of the Metropolitan Police, and its own courts of law. The city of L. is governed by a council which is a survival from medieval times. With this council is closely bound up a great part of the hist. of L. For the moment we will describe it in its present form. The city is a corporation styled 'the mayor, commonalty, and citizens.' The governing councils are composed as follows: (a) The Court of Aldermen consists of twenty-five aldermen, each elected for life by the householders of one of the twenty-five wards or sides of wards into which the city has been divided almost throughout hist. The primary function of the aldermen is to act as justices of peace for the city. (b) The Court of Common Council consists of the above aldermen and 203 common councillors, elected annually by the wards on St. Thomas's Day (Dec. 21). The electors (see Acts of Parliament, 11 Geo. I., c. 18 (1724), and 12 and 13 Vict., c. 94 (1849)) are the rated householders of the wards, who need not be freemen or citizens of the city. The Common Council is the legislative body of the corporation, and the controller of the finances and property of the city. The council does its work in the form of many committees appointed for the various parts of the administration, e.g. the Library Committee, the City Lands

Committee, the Markets Committee, etc. There are about thirty committees in all. The Court of Common Council is thus the chief executive and legislative body in the city. It also elects the town clerk, the city remembrancer, the city coroner, and the under-sheriff. (c) The Court of Common Hall, the third of the main courts, is composed of the lord mayor, the sheriffs, the aldermen, and the liverymen of the city companies. The Court of Common Hall only meets twice each year; its main business is to elect the sheriffs and city chamberlain, and a few other officials, and to nominate two aldermen, from whom the Court of Aldermen chooses one as lord mayor. The ratable value of the city in 1947 was £6,178,208 (that of Westminster was £9,799,655).

The markets of Billingsgate, Leadenhall, Islington (Metropolitan), Smithfield (L. Control Markets), etc., are under the control of the City Corporation, which derives a yearly income therefrom of about £315,000, almost balanced by an expenditure of £271,000. The Smithfield markets are by far the largest of these. The city has a total revenue from rates, rents, markets, etc., of £6,178,208, with an expenditure of about the same amount, mainly used in the maintenance of the markets, the police, and the streets. In addition to the revenue from the markets mentioned above, the city possesses valuable general estates with a gross revenue of about £680,000, the balance of the expenditure required being raised by rates. There is a long list of highly paid officials of doubtful public utility. The whole City Corporation is a survival from the Middle Ages endeavouring to function under modern conditions. In the Commons debate on the Local Government Bill, 1888, strong objection was raised to leaving the city of London as an exercise on the new system, treated, as one member put it, 'as a sort of strange animal pickled in spirits of wine.' But the gov. was not to be drawn and merely promised that a Bill to deal with the rest of London government would be introduced later.

But the most interesting survivals in the city of L. are the livery companies, the remains of the medieval system of organising trade and industry under the control of guilds or companies of privileged tradesmen or craftsmen. There are about eighty of these companies still existing, in more or less archaic form, in the city of L. They possess a total membership of about 9700 liverymen, who form the larger part of the Court of Common Hall. The first twelve of these guilds are termed the Great Companies, which are (in order of civic precedence) Mercers, Grocers, Drapers, Fishmongers, Goldsmiths, Skinners, Merchant Taylors, Haberdashers, Salters, Ironmongers, Vintners, and Clothworkers. The majority of these are possessed of valuable estates; thus the Mercers have a corporate income of £58,000 a year; the Grocers have a corporate income of £37,500; the Drapers of £50,000, and a trust income of £28,000; the Goldsmiths' corporate is £43,000,

and trust income £16,000; the Skinners' £33,200 and £33,500 respectively; Merchant Taylors' £37,000 and £13,000; Haberdashers' £20,000 and £49,000; Salters' £20,000 and £2000; Ironmongers' £13,000 and £13,000; Vintners' £14,000 and £4600; and the Clothworkers' £57,000 and £27,400. The total property of all the livery companies is said to be about £18,000,000, producing an income of about £900,000 a year. The wealthiest of the lesser companies are the Leathersellers, the Carpenters, and the Brewers, though the property of the latter is mainly in the form of trusts. The halls of the companies are in some cases of great interest, and will be mentioned in the section on topography. Once the chief factor in L., both as trustees and governors, the livery companies have now become close private corporations, of little direct control over public affairs, but nevertheless powerful by reason of their historical reputation and their wealth. Their trading rights and duties are mainly nominal, though in some cases, e.g. the Apothecaries' Company and the Stationers', they are still, to some extent, in active existence.

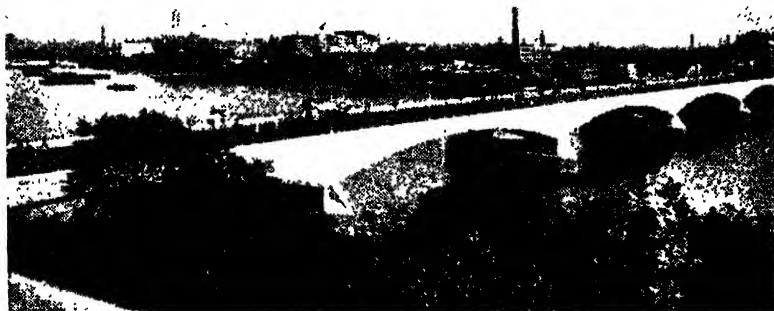
We have now glanced at the three main local governing bodies in the L. area. There are other bodies of various kinds, not only of intrinsic importance, but also worthy of notice as illustrating the affairs of L. The most noteworthy are the following: (1) The Metropolitan Police, which, we have seen, are in police control over the whole area of greater L., except the city, which has its own force. The Metropolitan Police number about 15,142 men (excluding the reserve of pensioners, the Metropolitan Special Constabulary, and the Metropolitan War Reserve, this last-named force numbering over 10,000 in 1941). The Metropolitan Police are under the control of a commissioner who is appointed by the home secretary, and is entirely under his orders. It is thus the instrument of the central gov., of which the home secretary is but one member. The yearly cost in salaries of the police amounts to about £5,600,000, and the total cost of the service £11,820,052 (1946-1947), which is met by almost equal payments from rates and the national exchequer. (2) The Metropolitan Water Board was constituted by the Act of 1902 to take over and control eight hitherto private and separate L. water companies and two urb. dist. council supplies. Its estab. killed the L.C.C.'s last hope of becoming the water authority for L. The genesis of the board was in the findings of the Landaff Commission (1897-99) which rejected anterior proposals for providing L. with water from Wales, the commission being of the opinion that the existing sources were adequate in normal circumstances, and that in times of drought, as had occurred in 1898, the situation could be met by making further inroads on the minimum flow of the Thames. The board consists of sixty-six members, twenty-nine of whom are elected by the bor. councils, fourteen by the L.C.C., and the rest by the other local governing bodies of the area. The

yearly receipts of the board amounted in 1946 to £7,129,278, which allows a balance after debt charges and expenses had been paid. The previous shareholders were mainly paid by the issue of 3 per cent stock. The pop. supplied is 6,244,900 persons, and the area supplied is about 540 sq. m., which, to a large extent, coincides with the area of greater L. as defined above. The water supplied amounts to about 53.1 gallons a day per head of the pop. The water is drawn from the Rs. Thames and Lea and the New R., and the rest from springs and wells. The charges are uniform over the whole area, and are levied on net ann. value at such rate, not exceeding 8½ per cent, as the board may fix. Since the Act of 1902 the water supply of L. has been well provided and safeguarded. During the drought of 1935 the board applied to the Ministry of Health for power to abstract additional water from the Thames, so as to leave less than the statutory minimum of 100,000,000 gallons a day. That the board was able to agree to a reduction in their proposed abstraction reflects an improvement in the capacity of the water reservoirs of L., of which it has had the keeping since 1902. (3) The Port of L. Authority is another attempt to place private trading under popular control. It was estab. by the Port of London Act, 1908, to take over the chief L. docks (i.e. the L. and India docks, the Surrey Commercial docks, and the Millwall docks), which were bought at the price of £22,800,000. For many centuries ships were small and required little depth of water. Cargoes were loaded and unloaded while the ships were high and dry at low water alongside the banks or by means of lighters. Later small platforms of stone or timber, or piers, were provided. In course of time a great many wharves and quays became estab. on the riverside in the vicinity of L. So greatly had the trade of the port of L. increased by the end of the eighteenth century that vessels became congested owing to inadequate moorings and warehouse accommodation. Plundering and smuggling of goods was rife and agitation led to Parliament passing an Act authorising the construction of the W. India docks. These were the first docks for handling goods built in the port (opened Aug. 27, 1802). Other docks quickly followed. In the next decades competition between dock proprietors and wharf owners became very keen, and owners of dock undertakings eventually found that they could not deal with the larger ships that were being built. The gov. appointed a royal commission to investigate the problem and the result was the Port of London Act, 1908, which created a new authority or public trust to take over and administer as one unit all the docks and the whole of the tidal portion of the riv. The authority has constructed new docks and its total capital expenditure is £38,000,000. The expenses are met by the present revenue of £7,000,000 from tonnage dues, port rates, riv. tolls, etc. It was estimated that there was a net income of £800,000 from the

above three dock companies bought under the Act. The power to levy port rates on goods was first given by the Act, whereas the power to collect dock rates on goods already existed in the time of the private dock companies. The authority is constituted as follows: eighteen members are elected by traders using the docks, one by the Admiralty, four by the L.C.C., two by the Ministry of Transport, two by the city of L., and one by Trinity House. These members are elected for a term of three years. Their authority extends from Teddington to the Isle of Sheppey, on both sides of the riv., including all ls., rivs., creeks, channels, harbours, docks, etc., within those limits. But the City Corporation still retains its powers as port sanitary authority, and Trinity House retains its powers as to pilotage, lighting, and buoying. The powers of the Conservancy of the R. Thames are now restricted to the riv. above Teddington, extending to Cricklade in Wiltshire. (4) The London Fire Brigade, under the control of the L.C.C., is maintained at a cost of about £1,933,215, of which the fire insurance companies pay £98,000, and the central gov. £147,450, leaving the bulk of the balance to come out of the rates. There are 2233 officers and men attached to 61 fire stations, and serving the area of 117 sq. m. contained within the L.C.C. boundaries. In the year 1943 there were 3043 fires. There are three riv. stations (included in the 61 stations mentioned above) Lambeth, S. Wharf, and Woolwich, at which there are four fireboats (two at Lambeth). There is also a salvage corps. (5) The Central Criminal Court is the chief criminal court of L., sitting at the Old Bailey, and acting as the assize court for the L. area. The lord mayor and aldermen and the recorder and common serjeant of the city, theoretically at least, act as judges, in addition to the justices of the high court. In practice the recorder and the common serjeant try the less important cases, and the more serious charges are heard before a justice of the high court. Its jurisdiction covers an area of 419.3 sq. m. with a pop. of 6,750,000, which does not coincide, however, with the Metropolitan Police Dist. or any co. divs. It embraces the whole of the cos. of Middlesex and L., and the city, in addition to parts of Essex, Surrey, and Kent. (6) The Metropolitan Police Courts. There are fourteen of these, presided over by twenty-five magistrates appointed by the Crown, who have each the powers of any two justices of the peace, or to inquire into indictable offences. In other words, they take the place of the ordinary non-professional justices in other areas, except that they cannot sit at quarter sessions. Their unified jurisdiction covers the whole co. of L., except a part of Hampstead, and practically coincides with the L.C.C. area, except that the city of L. is outside their jurisdiction, and has two police courts (the Mansion House and the Guildhall) of its own, presided over by the lord mayor, or one of the aldermen in rotation. (7) L. Univ. is a body of somewhat complex character.

It received its charter in 1836 as a non-resident univ. which granted degrees by examination of students, who were free to acquire their education where they pleased. By the Act of 1898 it was provided that it should become a teaching univ. also, and, as a result, it took over Univ. and King's Colleges, King's College for Women (a part of the original college), and the Goldsmiths' College. Besides these constituent colleges, it also directly maintains the Frances Galton Laboratory for National Eugenics, the Brown Animal Sanatory Institution, and the Physiological Laboratory at S. Kensington. Beyond these constituent parts of the univ. there are 'schools of the university,'

ann. block grants, the amount being determined for five-year periods, that for 1935-40 being £129,000 a year. In addition a capital sum of £150,000, spread over five years, is being made towards the capital requirements of colleges and schools of the univ. Capital grants have also been made, or promised, to a total of £450,000 towards the cost of the new univ. buildings at Bloomsbury (see also LONDON UNIVERSITY). (5) Bridges. The city corporation, through its Bridge House Estates Committee, bears the cost of the bridges over the Thames within its own area (Blackfriars, Southwark, L., and Tower bridges) and shares the cost of other bridges over the



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LONDON: THE THAMES AND WATERLOO BRIDGE

In the background is Southwark.

the teachers of which the univ. recognises as possessing univ. rank, and the students of which it recognises as 'internal' students. The univ. of L. is governed by a senate formed by a chancellor and fifty-four members, four of these being appointed by the Crown in council, sixteen by the convocation (the doctors and proctors) of the univ., sixteen by the faculties of teachers, and the rest by various public institutions. The L.C.C., which has liberally assisted the univ., is represented on the senate, and, since the reorganisation of 1929, on the court. The council's relations with the univ. began through the Technical Education Board and from 1894 capital grants were made to some of the colleges and schools of the univ. as well as maintenance grants. Grants were enlarged after the L.C.C. became the education authority in 1904. Since 1930 the L.C.C. has made

Thames and most other streams, but not of certain bridges at the borders of the co. The L.C.C. inherited from the old Metropolitan Board of Works control of ten bridges over the Thames, and one over Deptford Creek. As successor to the justices of the peace it also became responsible for twelve co. bridges, wholly within the then new co. of L., and eight partly outside the co. In all the council has about sixty road bridges under its control, many of which have been wholly or partly reconstructed. The prin. Thames bridges maintained by the L.C.C. are Hammersmith, Putney, Wandsworth, Lambeth, Waterloo, and Westminster. Hammersmith bridge is likely to require reconstruction in the not distant future. Putney bridge was widened between 1931 and 1934 to take six lines of traffic, the cost being £337,000. Wandsworth bridge is being (1949) reconstructed at a

cost of £500,000. The former iron suspension bridge at Lambeth was demolished between 1929 and 1932 and a new bridge to carry four lines of traffic was built at a cost of £440,000. The old Chelsea suspension bridge, built in 1858, was pulled down in 1935, and in 1937 the Prime Minister of Canada opened the new bridge, which cost over £300,000. Waterloo bridge has been replaced by a wider and handsome structure, following much controversy over the architectural merits of Rennie's old bridge, which, in any case, was gradually sinking. Westminster bridge, the broadest and most heavily used in L., remains untouched. (9) The L. Transport Executive is the controlling authority for L.'s system of electric train and bus services. See below under *Traffic*.

These are the chief official bodies and councils which control L. in their respective ways, but there is an unofficial body which has perhaps as much influence as all the rest, although it has no charter or other formal recognition by the legislature. This very powerful body is composed of the landowners of L. A census of these was taken by the L.C.C., from which it appears that the area of the council's jurisdiction (117 sq. m.) was owned by about 34,600 landlords, the largest being the collective bodies or institutions of the Crown, the Eccles. Commissioners, the L.C.C., and the corporation of the city; all these together possessed about 19 sq. m.; there are about 180 owners who average one-third of a sq. m. each.

Parliamentary Representation.—The present (1949) distribution of seats gives 62 members of the House of Commons for the L. bors: 5 to Wandsworth; 4 each to Camberwell, Islington, and Lambeth; 3 each to Hackney, St. Pancras, Southwark, and Stepney; 2 each to the City of L., Battersea, Hermondesey, Bethnal Green, Fulham, Hammersmith, Kensington, Lewisham, Paddington, Poplar, Westminster, and Woolwich; and 1 each to Chelsea, Deptford, Finsbury, Greenwich, Hampstead, Holborn, St. Marylebone, Shoreditch, and Stoke Newington. In their proposals (pub. at the end of 1947) for L., the Parl. Boundary Commissions, set up under the House of Commons (Redistribution of Seats) Act, 1944, made the boundaries of the parl. bors., as far as practicable, coterminous with those of the metropolitan bors., and this they were able to do with regard to 20 of the 28 bors. In 5 instances, owing to the small electorate, they did not recommend that the bor. should continue to be represented separately. These five are Finsbury, Chelsea, Holborn, Shoreditch, and Stoke Newington. Finsbury and Shoreditch are united to form a single-member constituency; Stoke Newington is combined with Hackney, Holborn with St. Pancras, and Chelsea with Westminster, the parl. bors. thus formed each being divided into two single-member constituencies. See further under *ELECTORATE*.

Traffic.—The traffic problem of L. has long been one of its recurring anxieties, owing to the difficulty of an adequate

appreciation of coming changes. L. has not had the advantage of continental cities such as Paris (where imperial influence pushed through the bold Haussmann plan) or of New York, where the realisation that a relatively small town was soon to develop into one of the world's greatest cities warned the authorities that they must make plans well ahead of the present. Traffic in L. has had to adapt itself as well as possible to haphazard methods of development and change, and, with the two outstanding exceptions of the Victoria Embankment during the nineteenth century, and the Kingsway-Aldwych improvement of recent years, the general policy has been one of patchwork and expediency.

The L. road traffic problem came to a head with a report of the L. and Home Cos. Advisory Committee, to give effect to which Bills for the joint management of L. transport facilities were promoted by the L.C.C. and the L. traffic combine. While the Bills were still before Parliament the general election of 1929 returned a Labour Gov. to office; the leader of the opposition on the L.C.C., Mr. Herbert Morrison, became minister of transport, and the Bills were dropped. Within two years a Bill was passed setting up the L. Passenger Transport Board to take over the L.C.C.'s tramways and other public transport services. To-day the traffic facilities of L. compare very favourably with those of any great city.

L. is essentially the railway centre of the country, as the great trunk railways converge on the metropolis and have their prin. terminal stations within easy reach of any part of the area. Thus, the N.E. Region at King's Cross, Liverpool Street, and Marylebone; the J. and Midland Region at Euston and St. Pancras; the W. Region at Paddington, and the S. Region at Victoria, Charing Cross, Holborn, Cannon Street, London Bridge, and Waterloo. In addition to long-distance traffic Brit. Railways are developing local business as opportunity offers. Two other terminal stations, Fenchurch Street and Broad Street, as well as the semi-terminal station of Baker Street, are largely devoted to this purpose. L. is now served by electric trains from many dists., and further extensions of these services are planned. One of the most important forces in L. traffic is the underground electric railway, now part of the L.P.T.B., but previously a company, the outgrowth of the old L. General Omnibus Company. This body obtained the controlling interest in the following and other companies, either by the purchase of the majority of the ordinary shares, or by the guarantee of dividends (the percentage of shares follows each name): Metropolitan and Dist. 55.07 per cent. L. Electric 96.09 per cent (includes the Piccadilly, Bakerloo, and Hampstead and Highgate lines). Central L. 0.05 per cent. General Omnibus 100 per cent. L. and Suburban Traction 75 per cent (owned tramways outside L.C.C. limits). In the case of the Central L. Railway the dividend was guaranteed under the

London Railway Facilities Act of 1915. by the Underground Company. This powerful company thus controlled 114 m. of railway and 112 m. of tram route, and in addition its motor buses covered over 1000 m. of streets and roads. The other important force in L. traffic was the L.C.C. tramway dept. Until late in its hist. this system was really divided into two parts, through the impossibility of tramlines crossing the two chief streams of E. and W. traffic, but a tramway track running under the Strand into High Holborn via the Kingsway tunnel linked the two sections. The tramway service previously owned by the L.C.C. covered the E., N., and S. of L. very thoroughly, but only touched W. L. at a few points and by circuitous routes. From July 1, 1933, however, the L.P.T.B. became the sole owning and organising authority for the omnibus, train, and tube system of the metropolis and suburbs, the most revolutionary change ever made in the ownership and administration of the transport system of a great city. *See further under LONDON PASSENGER TRANSPORT BOARD.*

The Docks.—The docks are one of the most important features of L., as one might expect in the case of the greatest trading centre in the world. These docks are now under the control of the Port of L. Authority (see above and *under* PORT OF LONDON AUTHORITY). The prin. wet docks of L. are the following: Tilbury, Royal Albert, Royal Victoria, E. India, Millwall, W. India and S.W. India, L. (Shadwell), St. Katherine, King George V., all on the N. side of the riv.; and the Surrey Commercial docks on the S. side. These docks cover an area of 1217 ac. with a water area of 722 ac. and provide 45 m. of quays. The docks begin just below the Tower of London, and are named above in their geographical order from the mouth of the Thames to the Tower.

Aviation.—Two main airports serve L.'s commercial air transport. These are the L. airport at Heathrow, near Staines, and Northolt airport, some 6 m. to the N.E. A third airport at Bovingdon, Hertfordshire, is used chiefly for freight, and a fourth at Blackbushe, near Cumberley, is a relief airport for use in thick weather. Still another alternative to L. is available at Hurn, near Christchurch, nearly 100 m. away. Croydon, once the prin. airport, is unsuitable for modern aircraft and, as it cannot be enlarged, is gradually falling into disuse. The L. airport handles chiefly intercontinental traffic. Seventeen operating companies, serving all five continents, were working to and from the L. airport in 1949. The average daily aircraft movements numbered seventy, the daily passenger total was about 900, and the freight handled was about 25 tons a day. Northolt airport deals almost exclusively with home and European traffic. It is smaller than the L. airport and is used mainly by smaller aircraft. All the operators in W. Europe were using it in 1949 and its daily traffic average was about eighty aircraft movements, 1200 passengers, and 12 tons of freight.

The flow of freight into and out of Bovingdon represented an average of about 8 tons a day. Development of the L. airport, planned for completion in 1955, is intended to increase its capacity threefold. Northolt is regarded as a temporary terminal for European traffic and will probably be replaced in 1956 by an airport on the E. side of L. The estimate is that by then 6000 passengers a day will pass through the continental airport. Aircraft movements in the L. area at that time will be not less than 400 a day and a wider separation of the two airports will be desirable for control reasons. A control area extends for a distance of about 25 m. around L. Within that area aircraft are required to follow instructions as to course and height given to their captains by the L. control. A smaller area with a radius of about 7 m. from L. airport is the control zone which no aircraft may enter without permission. In times of widespread fog aircraft can be sent to Blackbushe, where a F.I.D.O. system for dispersing fog along the runway by jets of petrol flame is installed. This is infrequently used because it is expensive and because an alternative fog-free airport is usually available. The proportion of G.C.A. landings is high. The average of such landings up to 1949 at the L. airport was 1500 out of a total of about 12,000 landings in the course of a year. Improvements are still being made in aircraft control and in approach aids in the L. area. Avoidance of delay in landing is becoming more urgent with the development of jet air liners, which consume fuel at an extremely high rate at low levels while waiting their turn to land.

Private flying continues from flying clubs at Panshanger near Hertford, Fairbairns near Woking, White Waltham near Maidenhead, Broxbourne, Essex, and Redhill, Surrey. Gliding clubs are on the Dunstable Downs and at Redhill.

Commerce and Industry.—L., in proportion to its vast size, is not an industrial city in the sense of the manufacturing of goods. There are, of course, large engineering works and shipbuilding yards at the E. end, on the riv. There are leather works in Bermondsey, and clock-makers in Clerkenwell, and furniture workshops in Bethnal Green, and there is still silk-weaving in Spitalfields. Breweries are famous and numerous, and by some strange luck smoky L. has been chosen as a suitable place to manufacture biscuits in large quantities. But in the great mass of L. all these trades are of comparatively small account. A great many new businesses, however, such as those connected with wireless, gramophones, moving pictures, television, electric light, and electric appliances tend to collect in the area. L. is essentially the city of the distributors and middlemen. It is a place of import and export; of bankers and financiers; of clerks and book-keepers. It is the European centre for gold distribution, although two wars have concentrated the chief gold reserves in other lands. The L. bankers are the heart of commercial L., with the Bank of

England at their head. Lombard Street is the classic place for great banks. Then there is the Stock Exchange, near the Bank of England. On the other side of the bank the Royal Exchange, the Corn Exchange, the Coal Exchange, the Wool Exchange, the Shipping Exchange, Lloyd's, and the Baltic transact the business of their respective trades. But perhaps the most pregnant summary of the trades of L. is to be found in the statistics of the tonnage of shipping which arrives and departs from the docks, and the ann. value of the overseas trade. An official summary gives the following statistics (which are, of course, valid only for the period before the Second World War): Shipping traffic—arrivals and departures (approximately), vessels, 62,000 (63,000,000 net registered tons); goods handled (approximately), 11,000,000 tons; overseas trade (exclusive of coastwise trade), ann. value, £543,000,000 (or over one-third of the overseas trade of the United Kingdom).

The chief markets have been mentioned above in reference to the City Corporation, under whose control and whose property they are. The chief market of L., beyond the possession of the city, is the vegetable market of Covent Garden, which is the property of the dukes of Bedford.



Jorn H. Stone

REGENT'S PARK

The rock-garden and lily pool

Parks.—In the mass of bricks and mortar which make up L. there are mercifully a few open spaces, some of considerable size. The most central and most famous is Hyde Park, of 363 ac., with the adjacent Kensington Gardens, of 274 ac. Practically touching Hyde Park begins Green Park, of 62 ac., and adjoining the latter is St. James's Park, of 193 ac.

Further N. from the above group is Regent's Park, which, with the adjoining Primrose Hill, has a total area of 472 ac. All these are owned by the gov., as is likewise the case with the magnificent Richmond Park, of 2358 ac., which is, however, just over the co. of L. boundary, but within the greater L. area. Woolwich Common, of 159 ac., is also in the same control. The L.C.C. maintains a large number of parks and open spaces having a total area of 5065 ac. The largest is Hainault Forest (1805 ac.), and the others most important are Hampstead Heath (320 ac.), Hackney Marsh (339 ac.), Parliament Hill (267 ac.), Ken Wood (195 ac.), Victoria Park (Bethnal Green) (217 ac.), Battersea Park (199 ac.), Wormwood Scrubbs (Hammersmith) (193 ac.), and Finsbury Park (115 ac.).

History.—The hist. of L. is inevitably bound up with the story of the nation of which it is the cap. city. Nevertheless there is a more local sense in which that hist. can be considered, and it is that which must be treated here. L., as we now speak of it, is the intermingling of many places which had once a distinct individuality of their own. L., as it was known to the A.-Ss., the Normans, and even in the days of the Stuarts and Hanoverians, was a city on the E. side of the little streamlet, the Fleet, which ran along the foot of Ludgate Hill. On the E. side of the fn. its boundary was drawn from the Thames bank, from about the spot where the Tower of L. now stands, which has been the military key through almost the whole hist. of the city. From the days of the Romans a wall ran from this S.E. corner, making a curve just short of the Moorgate marshes, until it came along the Fleet stream side and reached the Thames again at the end where now stands Blackfriars bridge. This small walled space, a mere spot on the map of modern L., was the city of hist. It certainly extended during the Middle Ages into small suburbs which grew up at its various gates, chiefly at Ludgate, Bishopsgate, and Cripplegate, the more important of these suburbs being made into wards of the city. But they reached a very little way from the gates when all is said. All the rest of the L. we know to-day was, until the end of the seventeen-hundreds, in actual fact, and even until the Local Government Act, 1888 (constituting the L.C.C.), in theory, a group of independent vills, and hamlets. First and foremost, there was the city of Westminster (and for some purposes it still exists independently), the place of the royal palace and the abbey which the royal house had founded and especially favoured. For long centuries Westminster was almost as important as the city of L. It was the king's city as against the city of the merchants. Even to-day the distinction still holds good in many ways. The depas. of the royal gov. mainly cluster round the Houses of Parliament and Whitehall. Other independent manors or vills, were Kensington, Chelsea, Paddington, and Marylebone on the W.; Islington, Stoke Newington, Hampstead, and Hackney on the N.; Stepney, Whitechapel,

Bow, and Bromley on the E.; the bor. of Southwark, and the vils. of Lambeth, Kensington, Battersea, and many others on the S.; all these names would now be considered as part of L. They have been swamped and encircled by the ruthless endeavours of the builder.

It is with the doings of the city and Westminster that the historian must be mainly concerned. They were, and are, the two dominant partners in the group. The first L. was probably a Celtic hamlet near the bank of the Wulbrook, a stream now built over, and scarcely more than a large drain. But small though it was, it seems to have given the place the name which lasts to this day. In Celtic *Llyn-din* means a stronghold by the marsh. Another theory traces the name from *Lud*, a Celtic water-god. The first historical reference to the place is in Tacitus, who wrote of it as 'Londinium, a place which is not indeed dignified with the name of a Colonia, but which is greatly celebrated for the number of its merchants and the abundance of its supplies.' His reference is to the time when it was sacked by Boadicea's army which had risen against the Romans. The Romans had adopted this place for much the same reason that it had attracted the Britons: it was the first convenient place where there was both a small hill which could be defended from attack, and also an easily available ford at Westminster close by. The Romans, with their higher engineering skill, were able to build a bridge: at least that is the inference from the fact that the Rom. roads concentrate on the position where it still crosses the riv. On the other hand, the ford gave a good reason for the selection of Westminster as an important place. In the middle of the ford was the little is. of Thorney. The buildings perhaps began as a halting-place, or the abode of the guides who conducted travellers over the riv. King Sebert of the E. Saxons seems to have built a church there as early as 616. But it was Edward the Confessor's abbey which made the place really famous; and he added a royal palace that gave Westminster the two main keynotes which it has retained throughout its hist. This adoption by the kings left the city of L. more completely in the hands of the merchants, who asserted their privilege of freedom from the direct control of the Crown. To this day when a king of England enters the city he must be met by the lord mayor, who hands him the keys of admission at Temple Bar, the W. limit of L. proper. Almost the whole of what we now call the W. end was built on land which was part of the abbey's manor of Westminster; and the chief landowner of that dist. is now the duke of Westminster, who has taken the historical place of the abbot and his monks. Southwark, the bor. which lies at the S. end of L. bridge on the Surrey side of the riv., was an independent place in its early hist. It was inhabited by the Romans, who left many remains there. Later on it became mainly a Dan. settlement during the periods of the Dan. raids and rule, and its name, *Suthgeworke*, is the Dan. for 'the

south fortified place.' It was not until 1327 that Edward III. put it under the jurisdiction of the city of L., whose tn. council complained that it had become a refuge for criminals who escaped there in order to get beyond the reach of its magistrates. But Southwark still retained many privileges, and it was not until the time of Edward VI. (1550) that it was made a ward of the city, with an alderman.

There we have the origin of the three chief units which now form the nucleus of the modern L. For many years the chief point at issue between L. and Westminster was to settle how much of the wealth of the city merchants should go into the treasury of the Westminster king. The city was the wealthiest place in the kingdom. The kings had other great palaces besides the one at Westminster: in early days Winchester, for example, ranked as the first place in the land. When William the Conqueror arrived he saw the importance of commanding L., and one of his first acts was to build the Tower, partly inside the walls and partly without, so that he could dominate the city and yet not be surrounded by his unruly subjects. At first the Tower was a royal residence as well as a fortress. But as time went on the kings lived more and more at Westminster, and by the time of Henry VIII. the Tower was mainly a prison and a fort. Charles II. was the last monarch to sleep within its walls. Since the early Parliaments were practically taxing assemblies called to vote money to the Crown, it was natural that they should meet at the king's palace, so Westminster became the seat of the Parliament, which at first sat in the chapter house of the abbey (from 1295 until 1547); then in St. Stephen's Chapel (now the rebuilt entrance hall of the present house) until 1834, when the whole of Westminster Palace (except the hall) was destroyed by fire. Somewhat paradoxically the Parliament Houses (rebuilt 1840-67) have remained till this day on the site of the king's palace, while the palace itself has moved sev. times. Thus, after the fire of 1512, Henry moved his court to Whitehall, which had been formerly the tn. house of Hubert de Burgh, the great justiciar of Henry III.'s reign; then it had passed into the possession of the archbishop of York, by which it came into the occupation of Cardinal Wolsey, on whose fall Henry VIII. seized it, and made it the chief royal palace in L. The Stuarts lived there, and Charles I. died there on the block outside the window of the banquetting hall, which still stands in the main street of Whitehall. When Whitehall palace was almost destroyed by fire in the reign of William III., the court moved to St. James's and Kensington, which stand to-day much as they were in the times of the early Hanoverians. Buckingham Palace, built in the nineteenth century, is now the actual residence of the Court in L., though St. James's remains the official seat.

To return to the hist. of the city of L. proper. After the Norman Conquest the city was busy securing its rights against the encroachments of the autocratic kings.

Henry I. granted a new charter about 1101, which put the co. of Middlesex under the control of a sheriff, who was to be chosen by the city council. In the language of that day, the *ferm* of Middlesex was sold to the city for a rent of £300 yearly, which was about the value at which the king estimated the revenue he had previously drawn from that co. The citizens were also given the power to choose their own chief justice, or justiciar. But, backed up by the threat of their Tower and its soldiers, the kings were not always ready to keep all the promises they made in their charters. The theory of the municipal constitution by no means always corresponds closely with the facts. During the civil wars of Stephen's reign the Londoners were chiefly on the side of the *de facto* king, though they received Matilda within their walls when she was too strong to be kept outside. There was a widespread fire about this time (1136), which swept from St. Paul's Cathedral to L. bridge and Aldgate. The city was then almost entirely built of wood, except probably a few great nobles' houses. But in 1189, in the reign of Richard Cœur de Lion, a law was passed commanding at least all the ground floors to be built of stone, while the roofs were to be tiles or slates. When Richard went crusading his minister in charge, Longchamp, made the Tower his headquarters, and tried to play the despot. The citizens, one day, were summoned by the assembly bell in the churchyard of St. Paul's (the place of popular meetings), and heard John and the nobles of his party depose the tyrant, and graciously grant the city the right to be governed as a commune, that is, an independent city. But, as a matter of fact, L. already claimed, and to some extent possessed, the right of self-government. In any case, it was about this time that the gov. took the form of a mayor and aldermen. The first mayor on record was Henry Fitz-Kylwin of London-stone, who held office from 1188 until his death twenty-five years later. In the year 1200 we first hear of 'five and twenty of the most discreet men of the city,' who were 'sworn to take counsel on behalf of the city, together with the mayor.' Perhaps this was the beginning of the Court of Aldermen, though, of course, aldermen had existed, with their wards, long before, probably from the Saxon days. There is a list of the wards still in existence dated 1130. But another theory holds that the twenty-five men may have been early common councillors. The agitation for Magna Carta was mainly a matter of L. hist.; for it was in St. Paul's Cathedral that the barons assembled on Aug. 25, 1215, when Langton, the archbishop of Canterbury, addressed them by an appeal to maintain the liberties of the realm. It was just outside the city, at the Temple, that John met the barons to discuss the matter for the first time, and when he would not give way the barons chose Robert Fitz-Walter, the chief constable of the city, to act as their leader, and when they had won their charter it was signed, amongst others, by the lord mayor of L., the only name on the

list that was not that of a peer. It is of this period that we have the first detailed description of the city, in an account written by Fitz-Stephen, the friend of Thomas à Becket; it was written indeed as an introduction to a life of St. Thomas, who was one of L.'s special saints. He described the great wall, with its seven double gates and its towers on the N. side. There was practically no L. at all beyond the walls, except a few straggling houses along some of the main roads of approach, and a few religious buildings whose holiness protected them without a wall of defence. Fitz-Stephen writes of the 'thirteen greater conventual churches,' besides the 126 lesser par. churches which were situated in L. and its immediate suburbs. Of Westminster he says: 'To the west the royal palace is seen rising above the river, an incomparable building with ramparts and bulwarks, two miles from the city, joined to it by a populous suburb'—the only real suburb L. then possessed. The 'greater conventual churches' he means are worthy of name, for they give a good illustration of the main features of the city and its surroundings at this time. They are Westminster Abbey, the Hospital of St. Giles, the Temple, the Priory of the Knights of St. John at Clerkenwell and the nunnery next door, St. Bartholomew's Priory, St. Katherine's Hospital near the E. wall, St. Mary Overy and Brompton Priory over the riv. at Southwark, while inside the walls were St. Martin-le-Grand near St. Paul's and the Priory of Holy Trinity at Aldgate. The other great religious houses to which Fitz-Stephen refers are a little doubtful. Another prominent feature of Fitz-Stephen's L. was the group of wells just outside the walls; of these the names of Clerkenwell and Holywell remain to this day. Indeed a very large proportion of the important names in L., whether of streets or districts, or some other local matter, can be traced back to the early days of the hist. of the city. There are to-day many names which would have been familiar to the men of the Norman period; in some cases they carry the mind back to the days of the Saxons and Danes, even to the Britons. Thus, for example, as we have seen, the name L. is Brit.; the church of St. Martin Poinroy, in the heart of the city, probably is (as Sir Lawrence Gomme surmised) the place of the Rom. *pomerium*, the open ground which lay just outside the first and smaller Roman; Adile Street is the survival of Adel or Atheling Street, the Saxon for Prince's Street; St. Clement Danes still recalls the period when it was the peculiar settlement of the Dan people, who never found themselves quite at home within the city walls, and the names of the Middle Ages period are numerous.

Fitz-Stephen mentions the existence of special districts given over to the use and habitation of the members of individual guilds or trade unions. To this day there is Bread Street, where the bakers baked, and Friday Street, where the fishmongers sold the fish for the day of abstinence. Other trade names are Milk Street, Iron-

monger Lane, and Honey Lane. During the years between the Norman Conquest and the Tudors perhaps the most important factor in L., after the Church, was the development of the trade guilds. The gov. of L. was, during this period, almost entirely in their hands. Their control of trade and industry was almost a monopoly, and their halls or council houses were an imposing part of the architectural display along the streets. In the Middle Ages L. was a city of churches and guilds, of priests and craftsmen, and its hist. is

the control of a merchant class. Fitz-Thomas, who was elected mayor in 1261, may be taken as the first representative of the newer men. He played the part of a popular demagogue; what happened can best be described in contemporary language: 'He so pampered the city population that they called themselves "the commons of the people." In all he did he acted and determined through them, saying, "Is it your will that so it should be?" and if they answered, "Ya, ya," so it was done. He had all the populace of



TUDOR LONDON: AFTER THE MAP BY PIETER VANDEN KEERE

- 1, Clerkenwell; 2, St. Jones; 3, Charterhouse; 4, St. Andrewes; 5, Holbourne Conduet; 6, Temple Bar; 7, St. Dunshous; 8, Olde Baylye; 9, S. Nic shambles; 10, Paules; 11, S. Taphyns; 12, London Stone; 13, The Stockes; 14, The Exchange; 15, Leaden hall; 16, Fanchurche; 17, Bassings hall; 18, Al hallowes in the wall; 19, Aldermanburye; 20, Winchester House; 21, Battle bridge; 22, Bernondsoy streets.

largely the story of these various trades and professions. In still earlier times the government of L. was probably mainly in the hands of a class of men drawn from the 'country gentleman' type, perhaps mainly the chief landowners of the city. These, as time went on and trade developed, were gradually supplanted by the newer merchant and craft classes, who became the moneyed classes. The country and tn. magnates were not divided by any hard and fast line. A good reminder of this fact is that Richard Whittington, the story-book hero of L., and also an historical personage, was the son of a Gloucestershire knight. The broad distinction holds good, however, that during the Middle Ages L. was under

the city summoned, telling them that the men of each craft must make such provision as should be to their own advantage, and he himself would have the same proclaimed throughout the city and strictly observed.' When the king, Henry III., refused to acknowledge such a revolutionary lord mayor, the Londoners threw themselves on the side of the barons and fought with them at the great battle of Lewes, 1264. It was the indiscretion of Prince Edward in ordering these Londoners too far from the field which lost his father the battle, for when Edward turned back to his father's assistance it was too late, for the king was a prisoner. The reason for young Edward's keen desire to strike at the Londoners gives us an interesting

insight into the medieval hist. of their town. A year or so before, Henry being short of money, Prince Edward raided the treasury of the Templars living in the Temple, where it still stands to this day off Fleet Street. The Londoners, like all well-to-do persons, feared that this lawless raiding might attack their possessions next. So to show their anger they took the first opportunity of throwing mud at the queen as she passed along the Thames under L. bridge on her way from the Tower to Windsor Castle. The chase at Lewes is generally held to have been incited by Edward's desire to avenge his mother. There is a dramatic sequel to the story. When Henry was rid of Simon de Montfort he turned savagely on L. and seized control of its government. He demanded that Fitz-Thomas and the chief men of the city should attend before him at Windsor and submit themselves to the royal mercy. They arrived. What happened is a mystery to this day: some of them were released very quickly, but Fitz-Thomas was never seen again.

In the charter of 1319 there is a clause declaring that every freeman of L. must belong to a 'mystery' or guild company, unless he could persuade the commonalty to elect him by popular vote. This made the control of L. almost a close monopoly of the craftsmen or guildsmen. In the reign of Edward III. it became a common custom to recognise these guilds or livery companies by a grant of letters patent from the Crown. By 1328 twenty-five guilds were thus legally recognised as possessing power to draw up rules for the regulation of their respective trades. By 1377, when Edward III. d., thirty-five had been added to the list. In 1351 the guilds elected the Common Council. It was during the fifteenth century that the splendid guild houses of the city companies were mainly built. Before 1100 we can only be certain that two of them were already in existence, the halls of the Merchant Taylors and of the Goldsmiths, though the Fishmongers probably had built their hall also. By the year 1485, the beginning of the Tudor period, twenty-eight other halls had been built, and others were in process of building. This century may be taken as the high-water mark of the power of the great city companies. In Tudor days the power of the Crown increased at the expense of the medieval power of the Church and guilds, and the evolution of industry had burst its medieval bonds. The day of the more unrestrained individual capitalist was coming fast. The transition from the master of a guild to a millionaire was well on its way, and it deeply influenced the hist. of L.

Edward IV. has, in some respects, a special claim to consideration in the hist. of the city. He was a great favourite with the traders of L. He made love to their wives, and generously scattered charters of privileges among the smaller guilds. He became a wool trader himself, and carried on a flourishing trade with Flanders. He also paid his debts punctually. In return for all these favours the

citizens gave him a free hand. They allowed him to murder Henry, and to grant the famous Hansatic League of foreign merchants almost complete independence within their guild house, the Steelyard, which stood where Cannon Street station now stands. But it was the Great Rebellion of the seventeenth century which finally demonstrated the great power of L. One might almost say that the merchants of L. were the motive power in the revolt against Charles I. They were now almost supreme within the walls. Their rival, the Church, had been swept away by Henry VIII. When Charles attempted to raise money by forced loans and hampered trade by patent monopolies, he found the city merchants too strong for him. All the right was by no means on the city's side, but there was no fact on the side of the king, and when strength meets blind autocracy there must follow war. L. was the stronghold of the Parli. party. When the king used armed force in the House of Commons the threatened members fled to the city, where they were safe. It shows the strength of the Londoners when we read that all the satisfaction that the pursuing Charles could get when he entered the city to demand the surrender of his opponents was a loud angry shout of 'Privilege! Privilege!' When Charles levied ship-money there was only one man in all L. who would pay. Strafford is said to have counselled Charles to bring the city innuents to reason by beheading a few of them, but instead it was Strafford's head that was cut off, and it is said that 200,000 people assembled on Tower Hill to see it done. The Commons sat in the city while their friends were arming themselves. When Charles heard the news that the train-bands of L. were arming, he left Whitehall and took up his residence out of harm's way, at Hampton Court. The 'train-bands' played a noble part in the hist. of L. This form of military service was introduced in Elizabeth's reign, the train-bands being regiments raised for home defence, and the predecessors of the citizen soldiers who have played such an important part in later wars. Though better trained in the metropolis than elsewhere they were not, of course, peculiar to London. Following the departure of Charles for Hampton Court, the Commons were escorted back to their house at Westminster by the citizens, in tumultuously joyful mood at their victory. During the Civil war which followed L. was the continuous centre and support of the Parli. cause.

From earliest times L. has always been ready to assume the role of a 'city in arms.' It was as a city in arms that it 'attacked Hengist and Æse, that it met the attacks of the Danes, took its share in the struggle at Hastings under its own sheriff, Ansgar; again it was under this influence that King Stephen mustered the men of L. and that a section of the army of the barons in 1264 was composed of Londoners; that the gathering under Wat Tyler took place at Mile End; that the organised forces of the city under Henry VIII. were gathered

there according to "ancient custom"; that the city in arms marched to Newbury led to battle by the city chiefs' (Gomme). Indeed the strategical importance of the city, from the fateful events of A.D. 61 to the days of the Civil war, was always recognised by the Rom. military system, by the A.-S. kings, by the Danes, by William I., by the military commanders during the Wars of the Roses, and during the Civil war.

L. had scarcely recovered from the strain of civil war when she had to face two terrible disasters. Four years after the Restoration the Great Plague decimated the city, and on its heels came the Great Fire. On Sept. 2, 1666, a baker's shop in Pudding Lane caught fire, and from this centre the conflagration spread rapidly. For five days the flames raged, and when at last they died down there was very little of L. left. St. Paul's Cathedral, eighty-nine churches, and most of the livery halls, together with 13,000 homes, lay in ruins (see also GREAT FIRE OF LONDON).

At the revolution of 1688 the councillors of L. did not take quit. An official part as they did in the Civil war, though it was within the city that the lords and bishops met (at the Guildhall) to arrange the plot to call William from Holland. When he arrived he invited the lord mayor, the aldermen, and fifty councillors to sit in the Convention Parliament which offered him the crown. In other words, he treated L. as an estate of the realm. That was perhaps L.'s last appearance as a constitutional factor. Henceforth it is merely the largest and wealthiest of the towns of the nation. By this time the swelling of the L. suburbs had begun. When the nobles and gentlemen returned to L. at the Restoration they did not take their old place in the city. They built themselves houses round Covent Garden and St. James's, continuing the process which had already begun round Lincoln's Inn Fields in the days of Charles I., when the friction between crown and merchant had already begun. These early suburbs linked up L. with Westminster. It was during the Hanoverian period that the rest of the W. end spread, drawing, one by one, the surrounding vills. within the whirlpool of L. as we know it to-day. Even in 1725, when the traveller De Saussure described it, he could still write that 'Chelsea is one of the finest and largest villages outside London . . . about two miles from Chelsea you reach Kensington, a large and fine village situated on a slight elevation. Marylebone is a fine large village about one mile from London. . . . Paddington is a small village further north, and two miles distant from London.' And he writes of Islington as a 'small market town,' and the vills. of Hackney, Hampstead, and Highgate, while Lambeth, on the S., is another 'small market town.' Of course Hammersmith, Fulham, and Putney were quite rural places in his eyes. It is therefore only since this date that L. has become anything like the place as we now know it. A statistical statement may help to focus its size. In the beginning of

Elizabeth's reign there were about 50,000 inhab. within the walls, and perhaps another 20,000 in the suburbs proper. Then came the moment of its first rapid growth. By the end of Elizabeth's reign it had almost doubled its pop. By the Restoration the total pop. was about 450,000. Now it has, in its widest sense, over 8,000,000.

Topographical and Architectural Features.—The above sketch of the historical growth of L. will have given a hint as to the distribution of its architectural features, which must now be summed up in a more systematic form. But first a word as to the topography. As said above, L. was at first a settlement on a little hill by the riv. bank. The city proper is on higher ground. The original hill can best be realised by looking up Ludgate Hill from the E. end of Fleet Street, and also by noticing how the streets to the S. fall away to the riv. Then continuing through the city eastwards, the ground descends until the old bed of the Walbrook is reached in Cannon Street, and the more rapid rise of the other bank can be noted just in front of Cannon Street station. The N. side of the city is flat where it reaches the ground which was in earlier days the Moor or Fen, still commemorated in the names Finsbury and Moorfields. Beyond that the tn. rises to the high ground of Islington and Hampstead and Highgate. Returning to the foot of Ludgate Hill the S. side of Fleet Street slopes more and more steeply down to the riv., until the comparatively steep streets are seen on the S. side of the Strand with the ground still rising on the N. side. Then comes the city of Westminster, built on the old marshes along the Thames, continuing along the riv. bank towards Putney. The ground rises slowly to the N. until it reaches the fairly uniform plateau along which Oxford Street runs, falling down rapidly at its E. end to the valley of Holborn (the stream in the hollow), now, of course, easily overlooked because of the viaduct. The chief historical and architectural features of present L., prior to the destruction wrought by Ger. bombing raids (see *Bomb-damaged London*, which follows), could be listed as: The city wall (best seen at St. Alphage Church, in L. Wall, in Cripplegate Churchyard, in the basement of the General Post Office building, and near the Tower). Chief palaces and fortresses, etc.: The Tower, Westminster Hall, St. James's Palace, Whitehall, Kensington Palace, Hampton Court (outside L.C.C. area), Buckingham Palace, the Horse Guards, Whitehall, Domestic and guild houses: The Guildhall, Merchant Taylors' Hall, Apothecaries' Hall, the Middle Temple Dining Hall, Lincoln's Inn Gate-way, Bernard's Inn, Staple Inn, Gray's Inn Hall, Chelsea Hospital (by Wren), Newcastle House and Lindsay House (Lincoln's Inn Fields), the houses in the Temple, Featherstone Buildings, the Adelphi, Berkeley Square, Grosvenor Square, Inigo Jones's house on S. side of Queen Street. The best known of the larger private houses included

Holland House, Lansdowne House, Marlborough House (belonging to the Crown), Bridgewater House, Apsley House (given to the nation in 1947), Chesterfield House, Lancaster House (formerly Stafford House and now used for the L. Museum), Montagu House (Whitehall). Churches: Westminster Abbey, St. Paul's, St. Bartholomew's, Southwark Cathedral, All Hallows, Barking, St. Stephen's, Walbrook (said to be Christopher Wren's best par. church), St. Olave's, Hart Street, St. Andrew Undershaft, St. Helen's, Bishopsgate, St. Ethelburga (best example of a small par. church of the Middle Ages now left in London), the Temple Church, Chelsea Old Church, and Westminster Cathedral (the sumptuous interior decoration of which should be specially noted). Other famous Rom. Catholic places of worship are Brompton Oratory, St. James's, Sp. Place, Our Lady of Victories, Kensington. There are many of Wren's par. churches scattered over the city. The most completely uniform dists. and streets were Regent Street (designed by John Nash, 1813-20), Queen Anne's Gate, Westminster (built about 1706), a very beautiful square of the period. Bloomsbury is still largely early Victorian, with many houses still older. The Great Ormond Street dist. has many examples of Queen Anne houses. The Adelphi is the work of the Adam brothers. Whitehall, with the Admiralty and Horse Guards, etc., is still very Hanoverian in tone. Belgrave Square and its dist. is fairly uniformly in the style of the period, 1830-50. Fitzroy Square is again the work of the Adams. Some of the other 'sights of London' can only be briefly mentioned here; these include the following: The Albert memorial, one of L.'s most controversial monuments, which took twenty years to build, and which was the work of Sir Gilbert Scott; Broadcasting House, erected in 1931 on modern lines, with a sculpture executed by Eric Gill; the Cenotaph in Whitehall, designed by Sir Edwin Lutyens, and first erected to preserve the memory of those who died in the First World War, and afterwards newly inscribed so that it may also remain a monument to those who fell in the Second World War; Cleopatra's Needle, standing on the Victoria Embankment, blackened by L. smoke and soot for many years (this was cleaned during 1949 in an effort to restore the original pink colour of the granite); Downing Street, Whitehall—No. 10 is the address of the Prime Minister of England; the Inns of Court; the Marble Arch, which was designed by John Nash; the Royal Mint, where all the coins used in the United Kingdom are struck; L. and Tower bridges, and the site of Tyburn tree at Marble Arch, which is marked with a plaque.

Bomb-damaged London.—The damage wrought by Ger. air raids in the First World War was a mere bagatelle to the widespread havoc caused by the much larger bombs and highly developed bomber planes used during the Second World War, and one of the major prob-

lems facing the gov. after the war was the rebuilding of the damaged and devastated areas. The heaviest damage in L., so far as area alone was concerned, was that in the Thames estuary, in the ill-fated riverside bors., and around the dock areas. In the last-named large fires were caused on Sept. 7, 1940, when more than 350 Ger. bombers attacked L. Heavy damage was done to shopping centres, particularly in the W. end and in Queen Victoria Street and the vicinity. Hardly a well-known city street escaped some damage, and, in anticipation of further raids, numerous firms and individuals transferred their offices to tns. in the W. of England, or elsewhere in the provs. Damage in the residential suburbs of L. was not heavy, but the area of outer L. is so great that the damage done was apt to be underrated, until the introduction of the flying bomb, when severe damage was sustained by many outer suburbs. A great number of L.'s historic buildings were hit, and some almost entirely destroyed. Both on Dec. 29, 1940, and again in April and May 1941, the Ger. Air Force made strenuous efforts to set the whole of L.'s chief business centres aflame, as had been done at Coventry, and, in a lesser degree, at Southampton, Bristol, Portsmouth, and elsewhere. On April 16, 1941, L. experienced one of the most wanton and savagely indiscriminate raids of the war and there was scarcely a dist. that did not suffer damage from high explosive and incendiary bombs, which rained down in thousands throughout the night from a force estimated at over 500 machines. It was in the raid of May 10 that Westminster Abbey and the Houses of Parliament were seriously damaged, the Commons' debating chamber being destroyed. The famous oak roof of Westminster Hall was pierced by bombs; Big Ben was scarred and damaged, but its mechanism remained intact, so that, throughout this nightmare period, its welcome chimes radiated over the Brit. broadcasting system symbolising the proud resistance of L. as the heart of the empire. Parliament agreed to a reconstruction scheme on Jan. 25, 1945. The deanery (except the Jerusalem Chamber and Jericho Parlour) of Westminster, one of the finest examples of medieval architecture in England, was destroyed; in Westminster Abbey the roof of the lantern in the centre of the building fell in. Structurally the abbey sustained no damage beyond this, but the Chancel window in Poets' Corner was destroyed.

Elsewhere in the cap., on the same night, sev. churches were destroyed, and five hospitals were hit, one being a hospital for children. In the cloister court of the House of Commons, which was originally built by Dr. John Chambers, physician to Henry VIII., the public bill office, the votes and proceedings office, and the old members' staircase leading to the inner lobby were all destroyed. Windows in the House of Lords were blasted, and Richard Cœur de Lion's sword was bent by a bomb in Old Palace Yard. One bomb dropped in the

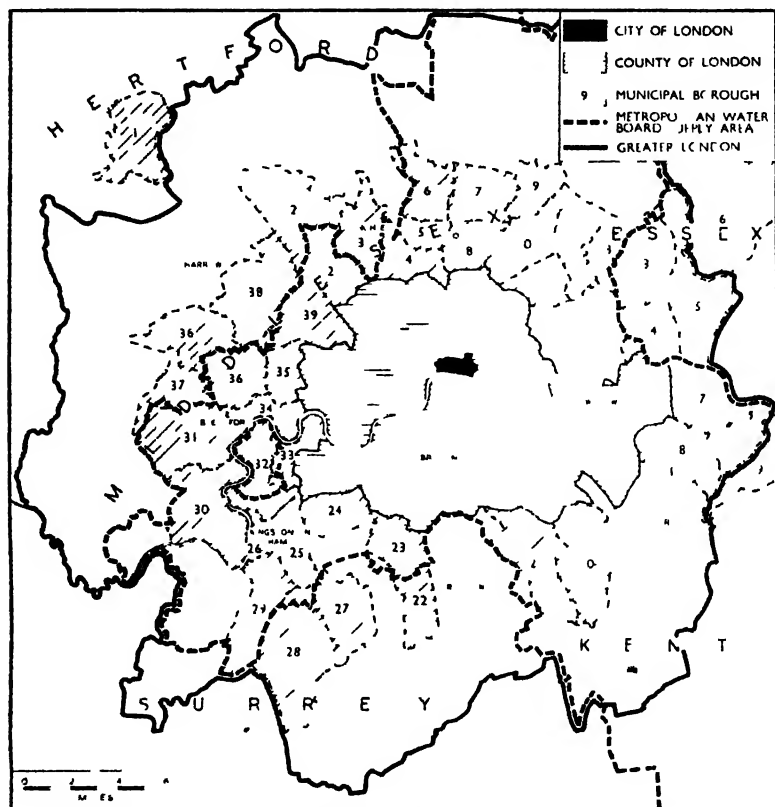
choir of St. Paul's Cathedral, obliterated the high altar, and damaged the reredos; another fell through the roof of the N. transept and into the crypt, destroying spandrels of the ceiling and the marble gallery near the N. door; the two bombs blasted out all the windows with the exception of a few fragments.

Buckingham Palace was attacked three times, but on each occasion only the precincts were hit. The private chapel, which was fitted up for worship by Queen Victoria, and used for daily prayers, was damaged. On the first occasion (Sept. 10, 1940) a time bomb shattered the swimming pool and damaged the Chinese Chippendale room. The great hall of the city Guildhall was burnt out in the fire raid of Dec. 29, 1940, and the library of the Guildhall was also damaged, but less seriously. The Guildhall Art Gallery has since been reopened. The N. bastion of the Tower of L. received a direct hit in Nov. 1940. The Tower was reopened to the general public at the beginning of 1946. The side of Trinity House was burnt out on Dec. 29, but plans have been prepared for repair and reconstruction of the interior. One end of the Temple Hall was blown out (Oct. 1940), but the ancient stained glass had been removed; restoration is now complete. The Inns of Court were particularly heavy sufferers: the Inner Temple Library and Hall were ruined; the riverward end of the Middle Temple Library was seriously damaged, and later the roof was destroyed. Pump and Brick Courts were also seriously damaged. The chapel, hall, and library of Gray's Inn were destroyed. Girdler-Hall court room was destroyed, together with its Wren-period panelling and Grinling Gibbons' carving. Other historic buildings damaged were Holland House, St. James's Palace, Kensington Palace, and Lambeth Palace. The chief L. churches which were left in ruins were St. Clement Danes (the statue of Dr. Johnson remained); the Chapel of the Ascension, Baywater Road; Bow Church (the spire and crypt remaining intact); St. Mary, Aldermanbury (the Shakespeare monument remains); St. Lawrence, Jewry; All Hallows, Barking (the tower remains); St. Olave's, Mark Lane; St. Bride, Fleet Street (the spire remains); Christ Church, Newgate (the tower and Lamb memorial were untouched); Greenwich Church (the Wolfe memorial was untouched); St. Giles's Cripplegate; St. Ann's, Soho (the tablets to Theodore and Hazlitt were untouched); Chelsea Old Church (part of Lawrence and Moro chapels remain); Austin Friars' Church, Old Broad Street; St. Augustine and St. Faith, Watling Street, of which R. H. Barham ('Thomas Ingoldsby') was rector in his day (the tower is almost all that survived); St. Vedast, Foster Lane (burnt out); St. Nicholas Cole Abbey (a mere shell, but one of the few remaining buildings between Queen Victoria Street and Cheapside); St. Andrew-by-the-Wardrobe (burnt out); St. Alban, Wood Street (wrecked); St. Michael's (Dick Whittington's church), of which the in-

terior was wrecked, but the seventeenth-century fittings had been removed.

Among churches damaged were St. Swithun's, Cannon Street; St. Margaret's, Westminster (the Caxton window being destroyed); the Temple Church; St. Stephen, Coleman Street; Our Lady of Victories, Kensington; St. Mildred, Bread Street; St. James's, Piccadilly; St. John, Smith Square; St. Stephen Walbrook (since restored and reopened, 1944); Christ Church, Westminster Bridge Road; St. Dunstan-in-the-E.; St. John's, Clerkenwell; and St. Sepulchre's, near the Old Bailey (the Watch House being destroyed). In Southwark Cathedral the windows to Shakespeare, Beaumont, Fletcher, Massinger, Allyn, and Chaucer were destroyed. The Bishop of L.'s commission on the city churches, in 1946, pub. its proposals regarding the future of the twenty churches that were seriously damaged. The commission recommended that eleven be restored, or rebuilt, that four be converted into parishes or institutes, and that the sites of the remaining five be sold. The five thus affected are those which are considered to be beyond restoration: St. Mildred, Bread Street; St. Swithun, Cannon Street; St. Mary, Aldermanbury; St. Alban, Wood Street; and St. Andrew-by-the-Wardrobe. The four churches recommended for conversion, all badly damaged, but not so severely as the five foregoing, are Christ Church, Newgate; St. Stephen, Coleman Street; St. Dunstan-in-the-E., and St. Augustine, Watling Street. The eleven churches recommended for restoration are All-Hallows, Barking, notable for the world-wide extent of its activities associated with Toc H, and partly rebuilt in 1949; St. Stephen, Walbrook, the rebuilding of which has (1949) also been begun; St. Lawrence, Jewry; St. Michael Royal; St. Vedast, Foster Lane; St. Mary-le-Bow, Cheapside; St. Bride, Fleet Street; St. Andrew, Holborn; St. Nicholas, the Abbey; St. Giles's, Cripplegate, and St. Olave, Hart Street. In the case of all the churches which are to be rebuilt, it was stated in 1949 that the work of rebuilding could not be completed until at least ten or twelve years from that date.

Other notable buildings which were hit included the Brit. Museum, the library of which was reopened in 1946 (see BRITISH MUSEUM), Law Courts, Tate Gallery (reopened 1946) and Wallace Collection (generally, all paintings had been removed), Old Bailey, Somerset House, Stationers' Hall, Royal Hospital, Chelsea, Hogarth House, and the Theatre Royal, Drury Lane. Queen's Hall was completely burnt out. The Arts Club, Dover Street, was almost demolished. Australia House, the Royal Empire Society's building in Northumberland Avenue, Co. Hall, the headquarters of the L.C.C., the Public Records House, Madame Tussaud's, Univ. College Library, the headquarters of the B.B.C., the headquarters of the Y.M.C.A., Spurgeon's Tabernacle (burnt out), and the whole of the old buildings of the Charterhouse (excepting the sixteenth-century entrance



ADMINISTRATIVE AREAS OF LONDON

The Metropolitan Police boundary is the same as the Greater London boundary

1. Watford, 2. Hendon, 3. Uxbridge, 4. Hornsey, 5. Waltham, 6. Southgate, 7. Edmonton, 8. Ilford, 9. Chingford, 10. Walthamstow, 11. Leyton, 12. Wanstead and Woodford, 13. Ilford, 14. Barking, 15. Dagenham, 16. Romford, 17. Erith, 18. Pexide, 19. Dartford, 20. Bromley, 21. Beckenham, 22. Bexley, 23. Bexleyheath, 24. Bexley, 25. Malden and Newington, 26. Kingston upon Thames, 27. Surbiton, 28. Chelsea, 29. Fulham, 30. Hammersmith, 31. Heston and Uxbridge, 32. Kingston, 33. Barking, 34. Havering, 35. Havering, 36. Larking, 37. Southall, 38. Wembley, 39. Wembley

gatehouse and the chapel). The Sessions House, Toynbee Hall, and Clerkenwell Co. Court were among the other prominent buildings which sustained more or less severe damage. The great hall of Westminster School, which will be restored, the Bushy Library, and the college were gutted, but the outer wall and facade, built from Wren's designs, remained. Especially heavy damage was suffered by the publishers in Paternoster Row in the fire raid of Dec 29, 1940, millions of books being destroyed. On the same night huge gaps were torn in the buildings at the back of Fleet Street, these, mostly, being

the offices of newspapers. Some blocks of St Thomas's Hospital were completely destroyed, and other hospitals hit were Queen Mary's, St Bartholomew's Medical School, Great Ormond Street Hospital, St Dunstan's (headquarters), and the Charterhouse Clinic. The V2 rocket was responsible for much damage between Sept 1944 and March 1945. Forty-five churches and chapels were destroyed or damaged, and thirty-five hospitals were hit. Whitefields Tabernacle, Tottenham Court Road, was destroyed after catching fire, in March. Among the worst incidents were those at

New Cross, Deptford, in Nov. 1944, when 160 persons died and 108 were seriously injured during the lunch hour, a rocket making a direct hit on a multiple store at a time when both the store and the pavement outside were crowded, mostly with women and children; at Stepney in March 1945, where a block of flats was reduced to rubble, and 133 persons killed and 49 seriously injured; and at Farringdon market, in March 1945, a rocket falling at a moment when the stalls were crowded with shoppers, casualties being 110 killed and 123 seriously injured.

Greater London Replanning.—Before the Second World War almost a quarter of the pop. of England and Wales, over 10,300,000 people, lived in the 2720 sq. m. of the greater L. region. This vast concentration of people was badly distributed, and pop. and industry moved from place to place within the region at a very high rate. People and industry were steadily withdrawing from the centre, while there was an influx from other parts of Britain into the outer suburbs. The outer ring of the L. area was expanding at an alarming rate and engulfing the green belt around the metropolis in a jumble of new building. The desirable objective for the development of L. was first sketched in the outline plan prepared by Sir Patrick Abercrombie (1945). This plan, abjuring piecemeal methods, advised a realistic middle course between a doctrinaire policy of decentralisation at all costs and the timidity which resists any idea of a broad plan as visionary. The challenge of this and the Barlow report (see TOWN AND COUNTRY PLANNING) had to be met, and the 143 local planning authorities of the region were grouped into twenty-three executive joint planning committees, which in turn set up, together with the L.C.C. and the city corporation, an advisory committee for L. regional planning. In July 1946 this committee submitted its report on the Abercrombie scheme to the minister of town and country planning, and in May 1947 the minister pub. the gov.'s decisions on many of the issues in dispute. In his memorandum the minister provided for the eventual removal of at least 300,000 people, principally to the tns. not far beyond the boundaries of the region. The gov. accepted the proposal that the overall growth of L. must be restrained and agreed with the preservation of the green belt round L. It was decided not to build new tns. at Stapleford, Ongar, Margaretting, Croxhurst, Holmwood, and White Waltham, as Sir Patrick Abercrombie recommended. Mainly it was decided that the proposed site was too near an existing tn., or that the land was too valuable for agric. purposes. Four new tns. were approved in principle, and steps taken to develop them; these are Stevenage, Hemel Hempstead, Harlow, and Crawley (Three Bridges). Other new tns. will be needed in the course of the decentralisation. The basis of the plan is that the pop. of the region will not materially increase above the 1938 pop. of about 10,000,000, and

that about 1,250,000 will be decentralised from the congested centre.

The Great Exhibition, 1951.—The festival of Britain, planned to take place in 1951, 100 years after the great exhibition planned by the prince consort, envisages the changing of part of the face of London, for the plans include the development of the S. bank of the Thames, where a great concert hall is to be built, together with a small hall for entertainments, and a restaurant. These buildings are to be a permanent feature of the S. bank, and will not be removed after the exhibition (indeed it is hardly thought possible that they will be fully completed until after the close of the exhibition). The S. bank is to be cleared between Co. Hall, Waterloo Bridge, the riv., and York Road, and work began in 1949. Only the Shot Tower will remain of the buildings already in this area.

Bibliography.—There is a multitude of books on L.; the most convenient for general reference are: HISTORICAL: J. Cussel, *Old and New London*, 1873; W. J. Loftie, *The History of London*, 1883; H. B. Wheatley, *London Past and Present* (3 vols.), 1891; R. R. Sharpe, *London and the Kingdom*, 1891; C. Welch, *Modern History of the City of London*, 1896; W. R. Lethaby, *London Before the Conquest*, 1902; Sir W. Bessant, *London in the Time of the Stuarts*, 1903, and *London in the Time of the Tudors*, 1904; G. R. Stirling Taylor, *An Historical Guide to London*, 1911; TOPOGRAPHICAL: P. Cunningham, *Handbook of London*, 1850 (new ed. by H. B. Wheatley, 1911); E. Walford, *Greater London* (2 vols.), 1893-95; Sir L. Gomme, *London*, 1914; C. G. Harper, *Londoners' Own London*, 1927; G. H. Cunningham, *London*, 1930; H. P. Clump, *The Face of London*, 1932; W. Kent, *The London Encyclopedia*, 1937, and *London for Everyman*, 1938, 1948; and H. Williams, *South London*, 1949. ADMINISTRATIVE: H. Morrison, *How London is Governed*, v.1, 1936, 1949; Sir G. Gibbon and R. W. Bell, *History of the London County Council, 1889-1939*, 1939; see also the London Government Act, 1939, which consolidates certain previous enactments and makes some amendments. GENERAL: J. Timbs, *Curiosities of London*, 1885; W. Harrison, *Memorable London Houses*, 1880; P. H. Ditchfield, *Memorials of Old London*, 1908; C. Mullins, *London's Story*, 1920; G. Bell, *More about Unknown London*, 1921; A. K. Bruce, *Memories and Monuments in the Streets of the City of London*, 1931; R. J. Blackham, *London forever the Sovereign City*, 1932; and A. J. Woolf, *The Battle of South London*, 1945. London, cap. of Middlesex co., Ontario, Canada. Situated 115 m. S.W. of Toronto and 125 m. W. of Niagara Falls. It is on the Can.-U.S. National and Canadian Pacific Railways' main lines; there is an airport near by, and it owns the civic lake port and park at Port Stanley on Lake Erie, 35 m. S. Founded originally in 1826 by Governor Simcoe as military headquarters at the forks of R. Thames. Eng. L.'s names were given not only to Ontario L.'s streets, parks, bridges, and

churches, but also to adjoining vills. and townships. Here is the univ. of W. Ontario; there is also a fine technical and commercial high school, sev. collegiate institutes or senior high schools, many separate Rom. Catholic schools, a music college, and a teachers' college. L. has two cathedrals, nearly eighty other churches, and a splendid public library. There are six hospitals and six large parks. There are very fine residential streets, and L. is called 'Forest city' from the great number of trees in its shaded streets. It is the second wholesale distributing centre of Ontario, fourth banking centre, and the dominion's seventh industrial city. Its chief industrial plants are concerned with the manuf. of refrigerators, agric. implements, stores, clothing, shoes, small steel wares, and cereals. The surrounding S.W. Ontario region is rich in agriculture. Pop. 91,000 (greater L. 115,000).

London Airport, see LONDON, Aviation.
London and North-Eastern Railway Company, The, came into being as such on Jan. 1, 1923, as a result of the Railways Act, 1921. Under this title there was a grouping of the old independent lines, viz. Great Central, Great E., Great N., N.E. (including Hull and Barnsley), N. Brit. and N. of Scotland Railways. The London termini were Marylebone, Liverpool Street, and King's Cross stations, from which latter the *Flying Scotsman* left daily (except Sunday) at 10 a.m. accomplishing the run to Edinburgh, a distance of 392 m., in 8½ hrs. In the season this journey was performed without an intermediate stop. The route mileage of the L.N.E.R. (including lines partly owned, leased, or worked by the company or jointly with other companies) was 6401 m. The L.N.E.R. was merged into Brit. Railways as from Jan. 1, 1948.

London Clay. Two triangular regions of this, the lower stratum of the Eocene formation, occur in England, the lower basin of the Thames and the Hampshire basin. The apexes of the triangles are near Hungerford and Salisbury respectively, while the bases are clearly marked by the extent of broken and low coast with muddy estuaries. It is a stiff clay, grey, red, brown, and bluish, with little trace of bedding and no large number of fossils. The fossils are indicative of an old estuary with warmer seas than now, and indicate the presence of palms, turtles, crocodiles, and other tropical life. Layers of septaria occur, worked on the E. coast and N. Kent into cement. The outcrops are largely marked by the presence of brickfields, with their characteristic yellow bricks. The beds are based on sand and gravel, below which lies the chalk; they have a maximum thickness of over 700 ft. The impervious bed imprisons large stores of subterranean water supplied from the Chilterns and N. Downs, and renders possible the artesian wells which supply the fountains of Trafalgar Square and an increasing number of factories and business houses. See Sir G. Lyell, *Principles of Geology*, 1840; J. S. Bowerbank, *Fossils of the London*

Clay, 1840; C. E. N. Bromehead, *Geology of North London*, 1925; and H. L. Sherlock, *London and the Thames Valley*, 1935.

Londonderry, Charles Stewart Henry Vane-Tempest-Stewart, seventh Marquess of (1878-1949), Brit. statesman, oldest son of the sixth marquess of L. Educated at Eton and Sandhurst. Served in the First World War, being second in command of the Royal Horse Guards. From 1906 to 1915, when he succeeded to the title, he was Conservative member for Maidstone. In the Coalition Gov. he was finance member of the Air Council in 1919, and then under-secretary for air and vice-president of the Air Council from 1920 to 1921. He gave up the post to join the gov. of N. Ireland, being appointed minister of education and leader of the senate. After the settlement of the boundary question he returned to England and was appointed first commissioner of works, a post he continued to hold in the National Gov. of 1931, later becoming secretary of state for air with a seat in the Cabinet. In 1932-33 he made an air tour of 16,000 m. to visit R.A.F. units in the Middle E. and India, gaining his 'A' certificate for flying on his return. It was in 1934 that he told the League of Nations that Great Britain would not give up the right to use the bomber against troublesome tribes on the N.W. frontier and similar regions—a reservation which raised a storm among the advocates of disarmament. L., however, radically disbelieved in the possibility of getting general disarmament and believed that no concessions would have any effect on the outcome of the Disarmament Conference. When Baldwin became Prime Minister in 1935 he removed L. from the Air Ministry and made him lord privy seal, but on reconstructing the gov., after the general election in Nov. 1935, he dropped L. altogether. After 1939 L. maintained his interest in all matters pertaining to the R.A.F., and he also took a leading part in the House of Lords in rousing the gov. to prepare plans for the expansion of civil aviation after the war. An air accident in 1945 ended his public career. He suffered a spinal injury from which he never fully recovered. Mr. Winston Churchill, in his memoirs, has paid tribute to L. as secretary of state for air. The great achievement of his period of office, states Mr. Churchill, was the designing and promotion of the Hurricane and Spitfire fighters.

Londonderry, Robert Stewart, second Marquess of, see CASTLEREAGH.

Londonderry: 1. N. co. of Ireland in the prov. of Ulster, bounded N. by the Atlantic. The surface varies, being composed of riv. valleys, rising to tablelands and mts., of which the highest elevation is Mt. Sawell (2236 ft.). The most important riv. is the Roe, which cuts the co. in two and flows into Lough Foyle, others also flowing into Lough Foyle are the Faughan and the Foyle, while further S. are the Moyola and the Bann. Lough Finn is the only lake, but Lough Neagh forms part of the E. boundary. The climate is not good for agriculture, but cattle and sheep

are reared, and oats, turnips, barley, potatoes, and flax are grown. The prin. manuf. is linen, and there are also potteries, breweries, and distilleries. The Bann affords fine salmon and eel fisheries, and the deep-sea fishing is carried on extensively. It is divided into six baronies and two parl. divs., each returning one member.

In 1609 the estates of the O'Nells, who owned most of the co., were confiscated and made over to the citizens of London; the common council of London then inaugurated the Irish Society, and they retained the tn. of L. and Coleraine, while twelve of the big livery companies divided the rest of the property between them. James I. cancelled their charter, but it was restored by Cromwell, and their rights are still retained. Area 816 sq. m. Pop. 950,000 (i.e. exclusive of L. co. bor.). 2. Or Derry, co. tn., situated about 21 m. from the mouth of Lough Foyle, on both banks of the R. Foyle and still partly surrounded by the old city walls, which extend for about a mile and include seven gates and sev. bastions. The two parts are connected by the Craigavon Bridge, which was opened in 1933, and carries a roadway 1200 ft. long. There are some fine old buildings, of which the Protestant cathedral of St. Columba (St. Columba founded monasteries at Derry—A.D. 546—and other places in Ireland before going to Iona—A.D. 563) is the finest, dating from 1633. Other old buildings date from the siege days of 1688. The original guildhall was destroyed by fire in 1908, only the outer walls and clock tower surviving. The building was reconstructed in 1912; the windows in the assembly hall and in the staircase contain fine examples of stained glass art, and the tower clock, erected in 1891, has dials 9½ ft. in diameter and weighs over 10 tons. The council chamber of the guildhall has a richly ornamented ceiling and contains a beautiful range of stained glass windows presented by the London livery companies. The cathedral was completed in 1633 at a cost of £1000. Lead from the old wooden spire was used for making bullets during the siege of 1688-89. The bells in the tower are the oldest peal in Ireland. In 1929 they were recast and increased from eight to thirteen. In the centre of the garden laid out in 1909 on the Diamond, on the site of the former Corporation Hall, is the war memorial. The monument to Governor Walker, a column surmounted by a colossal figure, stands in the Royal Bastion on the Mall Wall; round the pedestal are the names of other historic defenders: Mitchelburne, Baker, Murray, Cairnes, Leake, and Browning. Educational institutions are Magee Univ. College (in affiliation with Trinity College, Dublin), Foyle College for Protestants, St. Columb's College for Rom. Catholics, and the Municipal Technical College. Among the parks are Brooke Park, containing a museum and municipal library, St. Columb's Park, and Meenan Park. The staple industry, the making of shirts and collars, is a century old, having begun

as a handicraft in cottages and now being carried on in large factories in all dists. of the city. Subsidiary industries are motor and mechanical engineering, fancy-box making, snuff, mineral waters, and bacon curing. Surrounded by good agric. areas the port of L. has a large cattle shipping business and sheep and pig export trade.

'Derry' means an 'oak grove,' and its original appellation was Derry-Calgach, the 'oak wood of Calgach' (fierce warrior), and by that name it was known down to the tenth century. No such hero as Calgach is known to hist. or tradition, except in the pages of Tacitus. Thrice was the tn. pillaged by the Danes and indeed for centuries its hist. was mainly a record of fights and fires. In 1311 the tn. was granted to Richard de Burgo, earl of Ulster, and a more or less uneventful period followed. But in 1568, on the rebellion of Shane O'Neill, earl of Tyrone, there was a renewal of trouble; O'Neill suffered a great defeat at the hands of Edward Randolph, who commanded the Eng. forces, and was killed. Randolph's successor, Edward St. Low, abandoned the place in 1568, after an accidental explosion by which the tn. and fort were blown up, including the Teampall Mór or 'great church' built in 1161. With the plantation of Ulster under James I. a large tract of the prov. of Derry was distributed among the London companies or guilds. Subsequently, in order to avoid jealousy among the companies, the City of London Corporation retained the bors. of Derry and Coleraine in its own hands and appointed the Irish Society from among its own members to administer them. The Irish Society was founded by royal charter in 1613; its court consists of a governor and a deputy governor, and twenty-four assistants, in addition to the Recorder of London, and the society are trustees for the corporation of L. It was in connection with the association of Derry with the corporation of London that the name of the city was changed to L. It was one of the conditions of the original charter that the Irish Society was bound to fortify and enclose Derry with stone walls. These were laid out and built in 1617 at a cost of £2357. They consist of a thick rampart of earth, faced with stone and flanked with bastions, and range from 14 to 17 ft. in breadth and from 20 to 25 ft. in height. There are four old gates, Bishops, Butchers, Ferryquav, and Shipquay; in modern times three additional openings have been made for convenience. In arranging the tn. plan the Irish Society followed the principle of having in the centre a diamond, or tn. square, from four points of which main streets radiate.

Derry had its first siege during the rebellion of 1641, when it was successfully defended by seven companies of foot and fifteen guns sent by the London Corporation. In 1648 Sir Charles Coote, the parl. commander, took over the governorship and held it till the Restoration. In 1688 occurred the great siege, which it sustained against the forces of James II.

under Tyrconnell, and which has made the name of Derry famous. The story is one of stubborn endurance, unswerving loyalty to William of Orange, and remarkable courage in the midst of treachery, famine, and disease. Perseverance was at length rewarded by relief, when hope had almost gone, after a siege of 105 days. A boom had been stretched across the river to block the small squadron of ships laden with provisions from England that had laid for some weeks in the lough beyond Culmore Fort. This famous siege is commemorated by a column erected to perpetuate the memory of the Rev George Walker, while a bronze tablet on the wall opposite the guildhall commemorates the heroism of Capt Browning

dry inaccurate 'news'. In 1707 Richard Steele was appointed its gazetteer and editor. In 1845, when the 'railway mania' was at its height the *L G* assumed bulky dimensions because of the unprecedented rush of advertisements. On Nov 15 of that year it was swollen on this account to as many as 583 pages of printed matter. To-day it appears twice a week, on Tuesday and Friday. Its pages are filled with announcements of appointments, promotions, and retirements etc., in the army and navy, and with advertisements required by law.

London General Omnibus Company was formed in 1855 and its original title was *La Compagnie Générale des Omnibus de Londres*. This was of course in the days



London General Omnibus Co. Ltd. Dundee

LONDONDERRY CRAIGAVON BRIDGE

of the *Mountjoy* which by breaking the boom relieved the city. Browning falling at the moment of his triumph. The anniversary of the relief is still observed on Aug 12. In the Second World War *L* was the haven sought by thousands of Brit., Canadian and Amer. sailors returning from their Atlantic patrols. It was in fact the main base in the battle of the Atlantic. 11,000,000 tons of allied naval shipping used the port during the years 1940-4. It was fitting that the people of *L* should witness the eventual surrender of more than sixty U-boats. It is a color and returns one member to Parliament. Pop 47,800.

'Londonderry Air,' one of the best known Irish folk tunes often sung to words of *Danny Boy*.

'London Gazette,' first appeared in 1866 being in reality the twenty-fourth number of the *Oxford Gazette*. Charles Perrot, M.A., a fellow of Oriel College, Oxford, ed it till about 1871. Although it aimed at being the official recorder of news, its scanty columns contained little up-to-date information. After the revolution (1888) it appeared three times a week the reader paying a penny for two double-columned folio pages of happy gossip or

of the old horse buses but early in the twentieth century these had all been superseded by motor buses. The latest of these were of a very luxurious type for street service and fitted with the most modern equipment and appointments. The miles of roads over which the buses operated were 1200. Later the company started a Green Line of motor coaches to the provinces. On the formation of the London Passenger Transport Board in 1933 the *L G* was put under its control.

London Group, The, society of professional artists which was formed in 1913 by a number of painters associated with Walter Sickert (q.v.). The first president was Harold Gilman (1876-1919). The aim of the society was to break away from academic tradition and allow British painting to nourish itself freely from the influences of Post Impressionism. The *L G* holds exhibitions in various London galleries and under its auspices a number of modern painters who have since achieved fame were encouraged to develop in an individual and experimental style. Among them mention may be made of Paul Nash, Matthew Smith, Duncan Grant, Edward Wadsworth, Ivon Hitchens, and David Jones.

London Hippodrome, see HIPPODROME.
London Hospital, The, Whitechapel Road, London E.1, founded in 1740. Formerly one of the largest voluntary hospitals in London, it expanded and modernised its facilities and equipment during the present century, particularly during the chairmanship of Sydney Holland, Lord Knutsford. In 1912 it was further added by a bequest of over £100,000. Under the National Health Act of 1946 it is designated a medical teaching centre. Its medical college is one of the medical schools of London Univ., and possesses laboratories, a valuable library, and a museum of pathology. The L. H. is also approved as a training school for nurses and midwives. The hospital now provides over 900 beds, 700 in the London building and 200 in the hospital annex at Brontwood. Convalescent homes are run in conjunction with the hospital at Reigate, Felixstowe, and Hanstead. The work of the hospital is divided under fourteen specialised depts., and there are eighteen operating theatres.

London Irish Rifles, see LONDON REGIMENT.

London Library, The, founded 1841 by Thomas Carlyle and others mainly to enable scholars and students to borrow books which at that time could only be read in the Brit. Museum. It began with 3000 vols. It specialises in books on art, biography, hist., literature (Eng. and foreign), philosophy, religion, travel, and has nearly 500,000 vols. From two rooms in Pall Mall the library moved to its present site, 14 St. James's Square, in 1845. The old premises were rebuilt in 1897. Additions to the premises have been made from time to time, largely through the generosity of its members. The newest wing was hit by a bomb in 1944 but is being rebuilt. The library has always been under royal patronage and is governed by a president, vice-presidents and a committee of twenty-four of its members. A royal charter was granted in 1934. London members are allowed to borrow ten vols. and country members fifteen at a time, and there is a large reading room. The library is self-supporting, being dependent on members' subscriptions and gifts. There are few libraries, if any, from which a reader can borrow so many costly and valuable historical and artistic works, as e.g., Sir Thomas More's *English Works*, 1557; Lepsius's monumental *Denkmäler aus Ägypten* (12 vols.), 1819-59; Gould's book on *Birds of Great Britain* (5 vols.), 1873; Bouquet's *Recueil des historiens des Gaules et de la France*; Rymer's *Foedera*; Migne's *Patrologia Graeca et Latina*; Botticelli's *Drawings for Dante's Divine Commedia*; *Société des anciens textes français*; *Société de l'histoire de France*; *Acta Sanctorum*; *Mansi Sacrorum Conciliorum collection*; *Luther's Works* (Weimar ed.); Wilpert, *Römische Mosaiken* (4 vols.), 1917; Muratori's *Reverend Italicarum scriptores*; and the *Corpus inscriptionum latinarum*.

London, Midland and Scottish Railway Company (L.M.S.), The, emerged as such as a result of the various groupings of the

Brit. railways brought about by the Railways Act, 1921, which became operative as from Jan. 1, 1923. The L.M.S., the greatest of all Brit. railway companies, took over the following railway companies: London and N.W., Midland, Caledonian, Glasgow and S.W., Lancashire and Yorkshire, Highland, Furness, Wirral, Maryport and Carlisle, N. London and the Somerset and Dorset (1923). The total mileage of the company's lines was (1940) 6940; the company owned over 9300 locomotives, 26,600 coaching vehicles, and 292,500 merchandise and mineral vehicles. The prin. London termini of the company were Euston and St. Pancras stations. A famous train of the company was the *Royal Scot*, which did the journey of some 400 m. between Glasgow and London in 8½ hrs. The L.M.S. was merged into Brit. Railways as from Jan. 1, 1948.

London Military District was formed in 1905 by an army order of Jan. 6 which reorganised the various military dists., staffs, and commands of the United Kingdom. The London dist. covers the co. of London, the Guards' depot at Caterham, Purfleet, Rainham rifle range (for foot guards), Warley and Woburn for training, and (for regular troops) Windsor. Woolwich (exclusive of territorial troops quartered therein) is under the E. Command.

London Naval Conference (1930) was opened in the Royal Gallery of the House of Lords by H.M. The King to finish the work begun at Washington in 1921. Whereas the earlier treaty had regulated capital ships and aircraft carriers, the L. N. C. dealt with cruisers and submarines. The outcome of the conference was the treaty of April 22, 1930 signed by twenty-seven delegates of Great Britain, the dominions, U.S.A., Japan, France, and Italy, but never ratified by the last two countries, due chiefly to Fr. objection of Italy's insistence on parity with her. It provided that all construction on capital ships should be suspended for six years; that Great Britain, U.S.A., and Japan should reduce their capital ship quotas to 15, 15, 9; that the maximum tonnage of cruisers and destroyers should be 489,000 for Great Britain, 475,500 for the U.S.A., and 313,850 for Japan. Abolition of submarines, supported by Great Britain, U.S.A., and Italy, was opposed by France and Japan and the question shelved, but submarines were limited to 2000 tons and the three major powers agreed to a quota of 52,700 tons each. Under the later naval treaty of 1936 between the same powers, capital ship gun calibre was reduced to 11-in., the tonnage of aircraft carriers to 23,000 (from 27,000) and a naval holiday declared for the construction of cruisers. Italy was unable to associate herself with this agreement, Japan left the conference, and rising international tension soon stultified it. See further under NAVY AND NAVIES; SEA POWER.

London, New, see CONNECTICUT.

London, Pact of, concluded Sept. 1914, between Great Britain, France, and

Russia. The signatories mutually engaged not to conclude peace separately nor to demand terms of peace from the Central Empires without obtaining the previous agreement of each of the other signatories. In Sept. 1915 Italy came into the pact, and in the following Oct. Japan also joined it.

London Passenger Transport Board, or London Transport, body which, from July 1, 1933, to Jan. 1, 1948, was the sole owning and organising authority for the omnibus, train, and tube system of the metropolis and suburbs. Previous to 1933 the services, being under different owners and nominally at least in competition with each other, were unco-ordinated and, though mutual arrangements were made for obviating inconvenience, these did not solve a problem which became one of ever-increasing complexity. About 1928 the London traffic question became a matter of acute political controversy towards the settlement of which the inquiries held by the London and Home Cos. Traffic Advisory Committee, which had been set up under the London Traffic Act, 1924, had proved ineffective. In 1929, however, Bills were promoted in Parliament by the London Co. Council and the London Traffic Combine for the joint management of London transport facilities; but in that year a Labour Gov. was returned to office, with Mr. Herbert Morrison, leader of the opposition in the council, as minister of transport and the Bills were rejected in favour of a measure for setting up a board to take over the council's tramways and other public transport services. One of the most difficult questions was the terms of transfer to the new board: the London Co. Council wanted the board to take over the undertakings at their capital value, which the council assessed at £18,000,000; but the acquiring authority won the day and took them over at £8,300,000, this being the amount of the outstanding debt. The council were able to hand over a good tramway system covering 158 m., extending from Uxbridge to Dartford, and from Waltham Abbey to Purley. This transfer to the L. P. T. B. took place in 1934 and with it was transferred the council's former liability to pave such part of the street as lay between the tram rails and extended 18 in. on each side of them. Since the tramways were transferred to the board many of the lengths of tramway have been replaced by trolley vehicles, and during the Second World War the metals were pulled up for use in armaments factories. The nominal amount of the stock issued and outstanding as at June 30, 1934, was £109,368,000.

It is claimed that this merger was the most revolutionary change that had ever been made in the ownership and administration of the transport system of a great city; and when it is found that the board in normal times annually carried about 3,600,000 passengers over its diverse system, there is much to be said for the claim. Moreover it was the only urban transport system in the world which combined the ownership of omnibuses,

motor coaches, tramways, trolleybuses, and underground and surface railways, and also it was the only passenger transport body to combine undertakings previously under both company and municipal ownership. The concerns taken over by London Transport numbered 92 and comprised 5 railway, 17 tramway, 62 omnibus, 4 coach, and 4 subsidiary undertakings, the last including the Lots Road Power House at Chelsea (which supplies most of the railways and tramways with electric current). The board operated some 230 route m. of railway, 350 route m. of tramway and trolleybus route, and about 2400 m. of other bus and coach routes. The railways owned by the board were the Metropolitan, which runs out to Hertfordshire and Buckinghamshire; the Dist., City and S. London, Central London (once called the 'Twopenny Tube' and the first of its kind in England); and the London Electric (Bakerloo, Piccadilly, and Hampsstead Tubes). The omnibus and motor coach concerns taken over included Tilling, probably the oldest surviving concern in the London passenger transport business at the time of the board's formation; Green Line Coaches Ltd., and the Aldershot and Dist. Traction and other comparatively distant concerns. The merger of so many undertakings in one body resulted in greater efficiency of management, better training of personnel, and more up-to-date equipment, such as train-running indicators, pneumatic-operated car doors, improved signalling apparatus, etc. The first chairman of the board was Lord Ashfield (1874-1944). The L. P. T. B. became part of the nationalised system of transport, under the name of the London Transport Executive, on Jun. 1, 1948.

London Regiment, The. The L. R. embraces all the infantry territorial army regiments entitled City of London Regiment and L. R. Each regiment within the L. R. corresponds in all respects to a battalion of other infantry regiments. In 1859 there was a great revival of volunteers, due to a panic arising out of the supposed unfriendly attitude of Napoleon III. of France towards England. Public feeling practically compelled the gov. of the day to authorise the formation of volunteer rifle corps under an Act of 1864, and many such corps were formed in the city and co. of London, Middlesex, etc. These corps bore titles indicating their place of origin, e.g. Middlesex Volunteer Rifle Corps, until 1908, when they came into the new territorial force scheme as part of the L. R., a new regiment formed for the purpose. Each separate regiment is numbered in seniority throughout the regiment. The 9th L. R. (Queen Victoria Rifles) claims descent from a unit raised at the beginning of the nineteenth century. When the volunteers of that period were disbanded this corps maintained its existence as a rifle club, and was officially recognised and placed in the army list in Sept. 1853 under the title of The Middlesex (The Victoria) Volunteer Rifle Corps. Of the territorial battalions of the L. R.

the 5th is the London Rifle Brigade, the 13th the Kensingtons, the 14th the London Scottish, the 16th the Queen's Westminster, the 18th the London Irish Rifles, and the 28th the Artists' Rifles. The 7th City of London Regiment (Post Office Rifles) have the distinction of bearing honours for the earliest campaign in which volunteers participated, viz. Egypt, 1882. During the S. African war, 1899-1902, the volunteers of Middlesex and in and about London were permitted to participate either by providing service companies for regular regiments (see under LONDON SCOTTISH) or by individuals joining the City Imperial Volunteers. Thousands of volunteers thus served in the campaign, and sev. units of the L. R. bear the honour for the campaign. During the First World War each regiment raised from two to six battalions, which served with considerable distinction on every front, sev. individual members gaining the Victoria Cross. Many of the units have battle honours for some of the greatest battles of the campaign, e.g. Somme, Ypres, Arras, Neuve Chapelle, Festubert, Hindenburg line, Cambrai, Pursuit to Mons, Gallipoli, Jerusalem, Jordan, Dolran, and Egypt. Sev. units were in France in 1910 and in the subsequent evacuation from Dunkirk. The administrative offices of these regiments are at Finsbury Barracks, City Road, London, E.C.1.

London Rifle Brigade, see LONDON REGIMENT.

London School of Economics and Political Science, see ECONOMICS AND POLITICAL SCIENCE, THE LONDON SCHOOL OF.

London Scottish, The, London territorial army infantry regiment. The L. S. was formed in 1859 during the general Brit. volunteer movement. Its first commanding officer was Lord Elcho (later earl of Wemyss), who retained the appointment for twenty years. During the S. African war, 1899-1902, the regiment furnished a service company, which served with the Gordon Highlanders (its parent regular regiment) and a detachment for service with the City Imperial Volunteers. This service is commemorated on its colours. On April 1, 1908, it joined the newly formed territorial force (now territorial army), and took the title 14th (Co. of London) Battalion, The London Regiment, the L. S. In the First World War the L. S. was part of the original B.E.F. and was the first territorial infantry battalion to engage the enemy. It raised three battalions, which served in France, Flanders, Macedonia, and Palestine. In the Second World War there were three battalions, two of them infantry and the third a unit of heavy anti-aircraft artillery. The 1st and 3rd served overseas in many notable actions on the It. front. Its present headquarters, to which it moved in 1886, are at 50 Buckingham Gate, Westminster, London, S.W.

London Society, The, founded in 1912 by the earl of Plymouth, its first president. The aim of the society is to stimulate

interest in the historic buildings and amenities of London, to concern itself with their preservation, and to give consideration to schemes for the future development of London. The society arranges lectures and provides facilities for its members to visit places of interest. It publishes a *Journal* monthly or as occasion demands. The president is also chairman of the council, and in addition to the council there is an executive committee. The offices of the society are at 82 Pall Mall, London S.W.1. The ann. subscription is one guinea.

London Topographical Society was founded for the pub. of material illustrating the hist. and topography of the city and co. of London from the earliest times to the present day. It reproduces maps, views, and plans, publishes documents and data of every description, and gives a yearly record of demolition and topographical changes. Sev. maps and plans, the earliest dating from 1550, have already been produced. The society publishes the *London Topographical Record*.

London, Treaties of. A number of international conferences have been held in London since the eighteenth century and have resulted in international treaties, of which the following are the more important. (1) 1720: treaty under which the kingdom of Sardinia (q.r.) passed to the dukes of Savoy. (2) 1827: treaty between Great Britain, France, and Russia to secure the independence of Greece from Turkey; confirmed by a second treaty of London (1832), by which Greece became an independent kingdom (see GREECE, History). (3) 1839: treaty between the great powers in Europe to secure the creation of Belgium as an independent kingdom (see further under QUINTUPLE TREATY (1839)). (4) 1840: treaty between Great Britain, Russia, Prussia, and Austria agreeing to support Sultan Mahmoud II. against Mehemet Ali (q.r.). (5) 1867: treaty between two great powers in Europe to secure the independence of Luxemburg (q.r.). (6) 1871: treaty between Great Britain, France, Austria, Germany, Russia, Italy, and Turkey, abrogating the provisions of the Declaration of Paris (q.r.) in respect of preserving the neutrality of the Black Sea. It laid down the principle in international law that one of the contracting parties in an international treaty may not repudiate or modify any of the provisions of a treaty without the consent of the other contracting parties. (7) 1913: see BALKAN WAR. (8) 1915: secret treaty between Italy and the Entente Powers, designed to secure the adherence of Italy to the cause of the Allies in the First World War. Under it Italy was to obtain, eventually, i.e. Trentino, Trieste, S. Tyrol, Gorizia and Gradisca, Dalmatia, Istria, and the various Austrian is. in the Adriatic, thereby fulfilling its irredentist aspirations. Italy was also to keep and consolidate her hold on Libya, with rights of expansion in that region, concurrently with any extension of Brit. or Fr. interests in N. Africa. There was also an article in

the treaty binding the Allies to support Italy in her desire for the non-admittance of the Holy See to any diplomatic steps for the conclusion of peace or the regulation of questions arising out of the war. Most of these obligations were ultimately fulfilled. (9) 1925: treaty of non-aggression between Great Britain, France, and Belgium on the one hand and Germany on the other, concluded as part of the Locarno treaties (q.v.). See further under AUSTRIA-HUNGARY; ITALY; EUROPE; WORLD WAR, FIRST (vii), ALLIES AND THE NEAR EAST. *Italian Diplomacy*.

London University. London was one of the latest of the great caps. of Europe to provide itself with a univ., and there is no really adequate answer to the question why a project for the creation of a univ. was so long delayed. In the appendix to Stow's *Annals*, 1615, there is what purports to be, in three parts, an account of the 'three famous universities of Oxford, Cambridge, and London,' and Sir George Buck, author of the third of these treatises, enumerates the Gresham Foundation, the Divinity Schools at Westminster and St. Paul's, the Inns of Court and Chancery, the College of Heralds, the School of Civil Law at Doctor's Commons, and St. Paul's School, as forming collectively a complete academic system, and 'lacking nothing but a common government and chancellor' to give to it the unity and repute of a univ. Various projects for the creation of a univ. in London have been put forward from time to time, but the only one of these which even partially materialised is the college associated with the name of Sir Thomas Gresham (d. 1579). The Gresham College lectures are the sole surviving link with Gresham's original and far-sighted plan. The movement which was eventually responsible for the foundation of a univ. of London was unrelated to any of its predecessors. This movement, inspired by the teaching of Bentham, found expression in a letter to *The Times* of Feb. 9, 1825, in which the poet, Thomas Campbell, advocated the foundation of a great L. U., and the appeal initiated by him and his associates was so successful that two years later a sum of £160,000 was raised by subscribers who drew up a deed of settlement under which they became 'Proprietors of the University of London,' land being bought in Gower Street for the site of what became Univ. College. The same period saw the foundation of King's College, but the application for incorporation and degree-giving powers met with bitter opposition. The charter of incorporation was granted to Univ. College on Nov. 28, 1836, on which date also the charter of the new univ. was sealed.

From the beginning the gov. assumed responsibility for housing the univ. (as a non-resident institution) and at first premises were provided in Somerset House and, later, Marlborough House. In 1855 the univ. moved to Burlington House where, in 1870, a new building (now occupied by the Civil Service Commission) was opened by Queen Victoria, which was used until 1900, after which

portions of the Imperial Institute at S. Kensington were occupied as headquarters until 1936, and are still occupied for certain purposes by the univ. The administrative offices were removed to Bloomsbury in Aug. 1936 (but when the Second World War was imminent the new building was taken over by the Ministry of Information).

In 1558 an important change was made in the policy of the univ., for theretofore it admitted to its examinations only those students who had gone through a course of study at Univ. or King's Colleges or some other 'approved institution.' The list of these latter rapidly expanded until, in 1858, a supplemental charter provided that attendance at approved institutions should not be required for the examinations (other than in medicine) and thus formally recognised what was obvious, that the univ. could not accept responsibility for anything beyond the examination of its candidates. Its degrees were from that time thrown open to all who presented themselves for examination, not only from London and the Brit. Isles, but from all parts of the empire. The charter of 1858 is also important in another respect, since under it the graduates acquired the right to participate in the government of the univ. In 1878 the univ. extended its degrees to women, being the first univ. to do so in Great Britain. Soon after this Univ. College and King's College jointly petitioned for a charter for a new 'teaching university of London.' There were counter-proposals from the Royal College of Physicians and Surgeons and from others, and the gov. appointed a royal commission which, in 1889, reported that the general case for a teaching univ. in London had been proved. The commission did not approve of the proposal of the Royal College of Physicians and Surgeons to confer their own medical degrees. They considered it to be no part of the original conception of the univ. that it should be a mere examining body without direct connection with any teaching institution; and they did not think that the combination of the existing univ. with a new teaching univ. was impossible. But the senate of the univ. rejected the commission's scheme and a second commission was set up in 1892, and it was not until 1900 that the first University of London Act was passed. It was provided by the new statutes that the teaching work of the reconstituted univ. should be carried out in colleges which were designated as 'schools of the university,' and a number of institutions were admitted under the statutes for this purpose. Besides the constituent colleges (Univ. College, King's College, and Goldsmiths' College) the univ. also directly maintains the Francis Galton Laboratory for Natural Eugenics and the Brown Animal Sanitary Institution; while the Bartlett School of Architecture, the Univ. Commerce Degree Bureau and Appointments Board, the Institute of Historical Research, and the Univ. Observatory are all univ. depts. Besides all the foregoing the

following are 'schools of the university,' the teachers of which the univ. recognises as possessing only rank, and the students of which it recognises as 'internal' students: E. London College (Mile End Road, E.); Royal Holloway College (Eghfield Green); Bedford College for Women (Baker Street); Westfield College (Hampstead); London Day Training College (Southampton Row); Imperial College of Science and Technology (Imperial Institute, S. Kensington), comprising Royal College of Science, Royal School of Mines, and the City and Guilds (Engineering) College; S.E. Agric. College (Wye, Kent); London School of Economics (Clare Market, Kingsway); New College (Hampstead); Hackney College (Hampstead); Wesleyan College (Richmond); the medical schools of the following hospitals: St. Bartholomew's (Smithfield), Guy's (Rorough), St. Thomas's (Albert Embankment), London (Whitechapel Road), Middlesex (Mortimer Street, W.), St. George's (Hyde Park Corner), Charing Cross (Agar Street, Strand), St. Mary's (Prud Street, W.), Westminster (by the Abbey), King's (since removed to Denmark Hill) on Lincoln's Inn Fields), London (Royal Free Hospital) School of Medicine for Women (Brunswick Square, W.C.), London School of Tropical Medicine (Albert Dock, E.), Lister Institute of Preventive Medicine (Chelsea Bridge Road, S.W.), and the Royal Army Medical College (Grosvenor Road, S.W.), and some others, while there are a number of institutes with recognised teachers, such as the Royal Veterinary College and the Royal Academy of Music.

In 1926 another Act was passed, which appointed a body of commissioners to make statutes for the univ. These statutes came into operation in 1929. One of the most important changes made was the creation of a new body, the Court, to control the finances of the univ. The examinations for external and internal students are, in some cases, different, but the same degrees are awarded, except in medicine, mining, and architecture, where an internal course of study is required. Faculties of the U. of L. include arts, science, law, medicine, music, engineering, and economics, and the usual degrees and diplomas are awarded. The work done by the Univ. Extension and Tutorial Classes is considerable and includes a holiday course for foreigners. The number of internal students reading for degrees and diplomas in the session 1945-46 was close on 15,000. In addition there were over 19,000 registered external students. The number of appointed and recognised teachers in mid 1945 was 1300.

There are numerous hostels belonging to the various colleges, and the colleges are run on individual lines. The foundation stone of the new buildings in Bloomsbury was laid by King George V. (June 24, 1933). The cost of the scheme was about £3,000,000, and its purpose was to provide administrative buildings consonant with the dignity and importance of the univ.; but it did not involve the

removal of the existing colleges which are scattered about in various parts of London and even outside the metropolis. The Bloomsbury building comprises, besides offices, a library and a great hall, and a number of different univ. institutions, such as the Institute of Historical Research, the Schools of Oriental and Slavonic Studies, the Institute of Education, and the Courtauld Institute of Art.

The U. of L. is governed by a senate formed of a chancellor and 54 members, 4 of these being appointed by the Crown council, 16 by the convocation (the doctors and proctors) of the univ., 16 by the faculties of teachers, and the rest by various public institutions.

See the following publs. of the U. of L.: *The Historical Record, 1836-1926* (second issue), 1926; *The Senate House and Library, 1938: Calendar for the year 1943-49, 1948* (and earlier issues); *Regulations for Internal Students, Session 1948-49; Regulations for External Students, 1948-49*.

Lone Star State, see TEXAS.

Long, George Washington de, see DE LONG.

Long, Huey Pierce (1893-1935), Amer. lawyer and politician, b. at Winnfield, Louisiana. At sixteen he was an itinerant salesman. Admitted to the Bar (1915) he practised in Winnfield for a few years in cases against public utility companies. In 1928 he was elected governor of Louisiana, and he was U.S. senator 1931-35. His methods as a governor were those of an unbridled and unprincipled dictator who, having gained control of the state machinery of government, proceeded to abuse its functions. In 1934, for example, the state legislature passed more than forty of his Bills through all stages in a little over two hours. The most evil of his agencies or tools was the State Bureau of Criminal Investigation which he used, Nazi fashion, for political espionage and the suppression of opposition. He also controlled the state bar, police, fire dept., and in fact any other administrative unit that showed any tendency to resist him. He built 5000 m. of roads, excellent schools, and a new univ., with the result that the public debt of the state reached \$145,000,000; but as 70 per cent of the pop. were relieved of all indirect taxation there was no effective opposition to this expenditure. He was shot dead in the State House at Baton Rouge. His brother Earl Kemp (b. 1895) was lieutenant-governor from 1936 to 1938 and became governor on the resignation of Governor Richard Leche (1939), but he was defeated at the election for governor in 1940 and then returned by a great majority in 1948.

Long of Wraxall, Walter Hume Long, first Viscount (1854-1924), Eng. statesman, eldest son of Richard Penruddocke L. of Roud Ashton, Wiltshire. He was educated at Harrow and Christ Church, Oxford. In the Commons he represented various divs. as a Conservative from 1880 to 1921 continuously, including the Strand (London), 1910-18, and St. George's, Westminster, 1918-21. Held

successively the presidencies of the Board of Agriculture and the Local Gov. Board, each for a period of five years, 1895-1905. As president of the Local Gov. Board he made the dog-muzzling order, which stamped out rabies. In the Coalition during the First World War he again (1915) became president of the Local Gov. Board. In 1916 he became secretary for the colonies. After the armistice he was First Lord of the Admiralty, resigning in 1921. See his *Memories* (1923).

Long, Roger (1680-1770), Eng. astronomer, took his M.A. degree from Pembroke Hall, Cambridge, in 1704, and fourteen years later became a doctor of divinity. In 1729 he was chosen vice-chancellor of his univ. For three years (1749-51) he was the first Lowndes prof. of astronomy and geometry, after which he retired to a country vicarage. His text-book on astronomy (1742 and 1761) did much to popularise the science.

Long, Loch, sea loch of Scotland, being a branch of the frith of Clyde between Argyllshire and Dunbartonshire. It extends N. from Holy Loch to Arrochar for about 18 m., and its width is from 1 to 2 m.

Long Beach, city, watering-place, and summer resort of California, U.S.A., situated on San Pedro Bay, 4 m. E. of Wilmington. A harbour has been constructed with 10 sq. m. of anchorage; part of Los Angeles harbour, the system is the base of the U.S. Pacific Fleet. There is an airport. L. B. manufactures woollens, and steel ships. Fish and olive oil are tinned. An oil field was discovered in 1921, and natural gas is also utilised. Pop. (1940) 164,200, estimated (1946), 241,000.

Longbow, introduced into England from Wales, the L. was first used on a large scale by Edward I. Until the development of firearms it was the most effective weapon known. About 6 ft. in length, made of ash or yew, its arrows could penetrate 4 in. of oak. Its supremacy was shown, amongst other instances, at Agincourt, where a Fr. cavalry charge was reduced to complete confusion by a barrage of arrows.

Long Branch, city of New Jersey, U.S.A., in Monmouth co., about 30 m. S. of New York. It developed into a watering-place, and was chartered as a city in 1904. It possesses a noted drive, the Ocean Avenue, 5 m. long. It manufactures silk goods and raincoats, and has a fishing industry. Pop. 17,400.

Longchamps, William de (d. 1197), chancellor of England, was a Norman of humble origin, whom Richard I. made bishop of Ely in 1189, and afterwards, when he went on the crusade (1190), joint-justiciar with Hugh de Puiset, bishop of Durham. He manoeuvred de Puiset out of office, and by becoming papal legate in 1190 united supremacy in Church and State. Like Wolsey L. was unfailing in his devotion to his king, but his scorn of everything Eng., his burdensome taxation, his haughty bearing and his ungainly person roused such a storm of popular dislike that he was soon expelled from the kingdom. Richard

later made him chancellor, because he had helped to secure the king's ransom.

Longchamp, pleasure resort and race-course of Paris, France. The latter is situated at the end of the Bois de Boulogne, and the race for the Grand Prix is run here.

Long Chuyan, see **LONG XUYEN**.

Long Eaton, small tn. of Derbyshire, England, 10 m. E.S.E. of Derby, in the valley of the Trent. The prin. industry is the lace manuf., and there are manufs. of railway carriages, upholstery, metal tubing, etc. The urban dist. was extended in 1921. Pop. 28,100.

Longespée, William de, see **SALISBURY**, EARL OF.

Longevity, scientifically, refers to the length of life of any organism. In the case of lower forms of life very little has been determined, but the range is probably large; L. of a few hours is common. High plants are classed as annuals, biennials, perennials, etc., the range extending from a month to thousands of years. De Candolle gives figures as follows in years: elm, 335; ivy, 450; palms, 600-700; lime, 1076-1117; oak, 810-1500; yew, 2880; baobab, 5000. In the animal kingdom the range is considerably less, complexity of organism giving rise to greater chance of death. Certain infusoria live less than forty-eight hours. Cold-blooded animals live comparatively long: pike and carp, 100; tortoises, 100. Birds are long lived: eagles and crows, 100; peacocks, 20; but many smaller birds only 5 or 6. Among mammals the elephant ranks highest, over 100; camel, 50-60; horse, up to 40; deer, 30; ox, 15-20; dogs, pigs, 15-20. Although in cases some relation has been suggested between the period of gestation, or the age of maturity and the complete term of life, no laws have been formulated. Amongst the human race the biblical three score and ten still gives a healthy average, though it is not uncommon for the century to be passed. In 1915 there died at Serowe (Bechuanaland) a native named Ramonotswane Seran, who was claimed to be 130 years old; but some doubt has been cast on the validity of the claim, though according to the *Johannesburg Star* there could hardly be a shadow of doubt that he was 130 years old (see *The Times*, Aug. 31, 1945, and Sept. 5, 1915).

During the twentieth century attempts have been made to prolong the life of animals, and have been based on knowledge of the endocrine system. Voronoff has made most application of the process of grafting genital glands of apes into young men suffering from abnormalities of the endocrine organs, and into men approaching senescence. Partial rejuvenescence occurs for a time, but considerable doubt is thrown on the ability of such an operation to increase the span of life, especially since the various glands of the endocrine system work in conjunction, and the renewal of one type of gland could not rejuvenate the others. Moreover the gland of the ape atrophies in man. The life of sheep and rats has been pro-

longed by transplanting glands from young animals of the same species into animals approaching senescence.

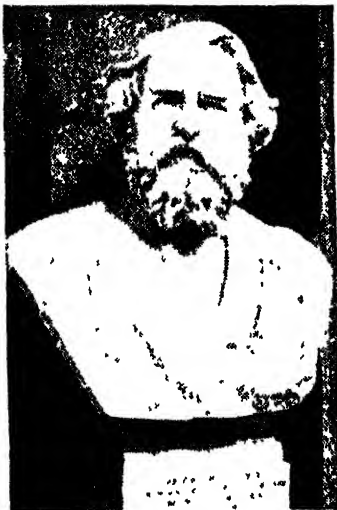
See S. Voronoff, *Old Age and Refuvenescence*, 1920, and *The Conquest of Life*, 1920; B. Sokoloff, *The Battle for Youth*, 1922; R. T. Gould, *Enigmas*, 1929; and A. Guéniot, *Pour Vivre 100 ans*, 1931.

Longfellow, Henry Wadsworth (1807-1882), Amor, poet, the son of Stephen L., a lawyer and a member of the U.S. Congress. In 1822 he was entered at Bowdoin College in Brunswick, where Nathaniel Hawthorne was a fellow student. He graduated in 1825, and from 1829 to 1834

position were all reflected in his face, which Kingsley said was the most beautiful human face he had ever seen. Many are the generous tributes which friends have left to the nobility of his character.

L. was a facile and tireless writer, and the mass and variety of his output are amazing. Besides publishing linguistic text-books and contributing to reviews and magazines, he made sev. trans., the best of which is a rendering of the *Divina Commedia* (1867). Yet, though he is wonderfully faithful to his original, he has failed to suggest the Dantesque fire and glowing mysticism, and his version is monotonous by reason of the absence of rhyme and the frequency of feminine endings. One of his earliest books was *Hyperion, a Romance* (1839), a prose account of a foreign tour; from that date till his death the flow of his poetry was unceasing. *The Voices of the Night* (1839), containing the 'Psalm of Life'; the *Ballads* (1841), including 'Excelsior', 'The Wreck of the Hesperus', and 'The Village Blacksmith'; and *The Seaside and the Fireside* (1849), which included 'The Building of the Ship,' most of which have found their way into the popular anthologies. As a dramatic poet L. has established a small reputation. His extravagantly emotional play, *The Spanish Student* (1813), attracts few readers in this unsentimental age, and his ambitious trilogy, *Christus, a Mystery*, woefully lacks cohesion. This work was commenced early and was planned as his most considerable achievement, but the entire work did not appear till 1872. It is an attempt to illustrate Christianity at three different stages of the world's hist., but the illustrations chosen are wanting in balance. The first part, *The Divine Tragedy* (1871), is a noble paraphrase of the Gospels; the second, *The Golden Legend* (1871), is a delightful love story and lyric drama based on von Aue's *Der arme Heinrich*; and the third, entitled *New England Tragedies* (1863), exposes a cheerless and evanescent religious atmosphere. All these had previously appeared as separate works.

L. was endowed, like Wm. Morris, with a spontaneous gift for story-telling. In his *Courtship of Miles Standish* (1858) he reanimated the 'dry bones of Puritanism,' and in his *Tales of a Wayside Inn* (1863) he strung together, with just such an excuse as Boccaccio had in his *Decameron*, a number of graceful and pleasurable stories. But the finest exposition of this gift is undoubtedly his epic, *Evangelina* (1847). Here he tells of the wanderings of two Fr. lovers of Acadia, who are parted on their wedding-day, and who are only reunited when he is old and is dying in a hospital. This is one of the most popular of the longer poems, and deservedly so, for it is wonderfully rich in tender pathos, sweet romance, and a stirring humanity. *Hiawatha* (1851) is the best appreciated of all the poet's works. Its haunting, melodious metre, which affords such a contrast to the hexameters of *Evangelina*,



H. W. LONGFELLOW
The bust in Westminster Abbey.

held the professorship of modern languages at his own college, having spent over three years on the Continent, visiting France, Germany, England, Spain, Italy, and Holland in order to qualify himself for the post. He then accepted a similar chair at Harvard. In 1835, and again in 1842, he returned to Europe, which he visited for the last time in 1868. His home during the latter part of his life was a stately wooden residence in Cambridge, where Washington had stayed during the siege of Boston. He was twice married, first to Mary Potter (1831) and afterwards (1843) to Frances Appleton.

Like Wordsworth L. passed a singularly happy and uneventful life, darkened only by two tragic sorrows, one the loss of his second wife, who was burnt to death in 1861, the other the loss of Agassiz, to whom he refers with such moving and beautiful sentiment in the five sonnets entitled *Three Friends of Mine*. His joy in life, his geniality, and his lovable dis-

is admirably adapted to the weird and old-world legend of the Indian Prometheus, whilst the ennobling allegory is so lightly mirrored forth, and the delightful cameo-pictures of the native skies and woods and hills are so deftly inset in the narrative of Hiawatha's progress, that truly these 'legends of prairie-land belong to the world's great story-book.' It may safely be said that, though it is idle to look for great originality, profundity of thought, or anything of the modern analytical spirit in L., his poems will live for many years if they last 'until another shall sing the same songs better.' See lives by his brother Samuel, 1886 and 1891; E. S. Robertson, 1887; G. R. Carpenter, 1901; T. W. Higginson, 1902; H. S. Gorman, 1926; and H. Hawthorne, 1936. See also E. C. Stedman, *Poets of America*, 1885, and E. Goggio, *Longfellow and Dante*, 1924.

Longford: 1. Co. of Eire in the prov. of Leinster, bounded N.W. by Leitrim, N.E. by Cavan, E. and S. by Westmeath, and W. by Lough Ree and Rosecommon. The surface is generally hilly, and there is a good deal of marsh and bog. The chief rivers are the Camlin, flowing into the Shannon, and the Inny, flowing into Lough Ree. Marble has been found in the co., also iron and lead. The pasturage is good in places, and some cattle and sheep are reared; oats and potatoes are the chief crops. Linen and woollens are manufactured. Much butter is exported. The co. joins with Athlone to send three members to the Dail. Area 421 sq. m. Pop. 36,200. 2. Co. in of above, and the trade centre for grain, butter, and bacon. It has corn-mills and tanneries, and possesses one of the finest churches in Ireland, St. Mel's Rom. Catholic Cathedral for the diocese of Ardagh. Pop. 3000.

Long-Haired Dachshund, variety of dachshund (q.v.) with a coat similar to that of the Irish Setter (q.v.), being long and silky, but lying flat without curl or wave, and forming abundant feathering on the forelegs, on the ears, under the tail, and outside the thighs.

Longhorn Breed, see under CATTLE.

Longicorns, see CRAMNOCIDE.

Longinus, Dionysius Cassius (c. A.D. 213-73), Gk. philosopher, belongs to the group of men who gathered round Porphyry, his pupil, and is one of the last of the great pagan literati. The son of wealthy parents, he left his native Syria to study in Rome and Athens, and thus had every opportunity to absorb the culture of his day. But though he must have been taught the doctrines of Neoplatonism he never seceded from the old Platonic school. Like Socrates he took his own life, and thus escaped the sentence of death passed on him by the Emperor Aurelian, because he assisted his patron, Zenobia, queen of Palmyra, in her revolt against imperial sway. There are reasons for believing that he wrote the *Treatise on the Sublime* (τὸν ὑψηλόν), in which the highest critical acumen is united with a singularly pure and elevated style. See ed. by W. R. Roberts, 1899.

Long Island, i.e. lying off the coast of

Connecticut and New York state, U.S.A., and forming part of the latter. It is 118 m. long, from 12 to 23 m. wide, and is separated from the mainland by L. I. Sound, which varies in width from 2 to 25 m., and is over 100 m. in length. Except on the N. the coast is much indented, and there are numerous bays, headlands, and smaller is. In the Great S. Bay there are large oyster beds, the famous Blue Points growing there. Market gardens flourish in the W., and cabbages and cucumbers are grown for sauerkraut and pickles. Brooklyn and Queen's bors., which form part of New York city, lie at the W. end, Nassau and Suffolk forming the remaining cos. It is mainly a residential area. La Guardia airport is in Queen's co., and at Lake Success the United Nations general assembly took up in 1946 its temporary headquarters. There are sev. recreational areas including Coney Is. and Jones Beach. The earliest Eng. settlement was in 1640, and it was closely followed by the Dutch. The battle of L. I. was fought there in 1776; it was the first battle in the campaign and resulted in a victory for Lord Howe. The area is 1682 sq. m.

Long Island (Denmark), see LANGELAND.

Long Island City, formerly a city of Queen's co., New York, U.S.A. Since 1898 it has been part of the bor. of Queen's, New York city, at the W. end of Long Is. Over 1400 factories produce a variety of products. Pop. 125,000.

Longitude, see LATITUDE AND LONGITUDE.

Longleat, one of the great historic houses of England, seat of the marquess of Bath, situated in Wiltshire, midway between Warminster and Frome, near the Somerset border. L. was built for Sir John Thynne between 1558 and 1580 on the site of the monastery of St. Radegund. Since then the gardens and grounds have been replanned and a chain of lakes made by Lancelot Brown (q.v.) in the late eighteenth century. About 1800 Sir Jeffrey Wyntville made a number of alterations to the house and added a large quadrangle of stables, and, in the mid nineteenth century, heavy ornate ceilings and marble door surrounds were added by L. workmen in the prin. rooms. L. therefore shows the influence of many fluctuations of taste; yet in the lofty hall and in the second-floor library, in which latter from 1691 to 1711 Bishop Ken (q.v.) lived and worked, something of the original house remains, while the S. E., and W. facades are almost as they were in 1580. Much of the interest of L. lies in its contents, which are of many periods: a large ornate table which belonged to Talleyrand; a library rich in MSS. and printed books, including a beautiful twelfth-century psalter and the Book of Bath (1428, a miscellany of verse and prose originally belonging to the monastery of Bath), some MSS. of Matthew Prior, Caxton's *Histories of Troye* (c. 1475), and four folios of Shakespeare. Among the portraits at L. are examples of Lely and most of the other noted seven-

teenth-century portrait painters. Other portraits are those of Lord Thurlow by Reynolds, of the first Lord Bath by Sir Thomas Lawrence, and of the fourth Lady Bath by G. F. Watts; while paintings by foreign masters include a head by Raphael and a small Holy Family by Titian. There is also a series of huge sporting paintings by John Wootton (c. 1678-1765), the most important being a number of hunting scenes which reveal Wootton's decorative power when painting on a large scale. Open to the public, L. is a 'show-place' of wide appeal.

Longmans, London firm of publishers, estab. in 1724. In that year Thomas Longman (1699-1755) took over the business of Wm. Taylor (the publisher of *Robinson Crusoe*) at the signs of the 'Ship' and the 'Black Swan' in Paternoster Row. Until the fire of Dec. 1940 the present firm, Longmans, Green & Company Ltd., occupied premises on the original site; the address is now 6 and 7 Clifford Street, off Bond Street. Ever since the foundation members of the Longman family have exercised a major control, though others have been taken into partnership. In 1890 the firm bought up the business of Rivington (estab. 1711). Among L.'s pubs. are the works of Wordsworth, Scott, Coleridge, Southey, and Moore; Macaulay's *Lays of Ancient Rome* and *History of England*; books by John Stuart Mill, J. A. Froude, W. E. Lecky, Rider Haggard, Andrew Lang (who was literary adviser for many years), Richard Jefferies, R. L. Stevenson, Conan Doyle, Wm. Morris, and Thornton Wilder; and the works of G. M. Trevelyan. L. pub. the *Edinburgh Review* and *Longmans' Magazine* and continue to publish journals like *The English Historical Review*. The firm has associated companies in the U.S.A., Canada, and India, branches in S. Africa and Australia, and agents for its educational pubs. all over the world.

Long Measure, see under **WEIGHTS AND MEASURES**.

Longobards, **Longobardi**, or **Lombards**, name of a nation of ant. Germany, belonging to the Suevic tribe. Their original dwelling-place was on the E. side of the R. Elbe, but during the fourth or fifth century they dwelt on the banks of the Danube, and were successful in destroying the Heruli, while about the middle of the sixth century they lived in Pannonia, and here they were victorious over the Gepidae. In 568, after crossing the Julian Alps, they, under their king, Alboin, subjugated N. Italy, giving it the name of Lombardy (*g.v.*), after themselves. They finally settled here, and made this their kingdom, under the somewhat nominal sovereignty of various elected kings for about two centuries. These L. treated the It. whom they had conquered in quite a different way from their own people, allowing them none of their privileges, but at the same time they numbered among their kings some wise and able men. They were, however, a constant threat to the papacy, particularly under Liutprand (712-43) who estab. a definite control over the Longo-

bard dukes. After his death Pepin, son of Charles Martel, in answer to the appeal of Gregory III., began a conquest of the L., completed by his son Charlemagne in 774.

Long Parliament, name of two Parliaments in Eng. hist. (1640-53 and 1661-79) and of one (1886-1900) in the hist. of Spain. The title belongs *par excellence* to the first of these. Its first act was to compass the execution of the earl of Strafford by a Bill of Attainder (1641), and it then proceeded to abolish the Star Chamber. A constitutional Church and royalist party grew up under the leadership of Hyde and Falkland, when Pym and Hampden, the chief statesmen of the popular party, showed by the 'Root and Branch Bill' and the 'Grand Remonstrance' that they intended to abolish the existing system of eccles. government and get the reins of government into their own hands. In 1642 Charles I. made a futile attempt to seize Pym, Hampden, Holles, Hazlerigg, and Strode, his chief enemies in the House. From 1644 parl. power passed into the hands of the Independents. Laud was executed and the New Model Ordinance enforced, whereby a single parliamentary army was created, the officers of which had all to subscribe to the Covenant (1645). In 1648 Cromwell got rid of the Moderates and Presbyterians by the high-handed action immortalised as 'Pride's Purge'. The 'Rump,' as the remnant was called, was submissive to its master, and obediently voted the execution of Charles and the institution of the Commonwealth (1649). In 1653 it was dismissed, Cromwell having no further use for it. See further under **ENGLAND, History**. See J. H. Hexter. *The Reign of King Pym*, 1911.

Long Primer, name of an old size of type, equivalent to the modern ten point. In Germany it is known as *Korpus* or *Garmond*, in Holland, *Garmand*, and in Italy, *Garamone*, taking the name from Claude Garamond, Fr. type-founder, who d. in 1561. In France it is called *petit-romain*. See **GARAMOND; TYPOGRAPHY**.

Long Range Desert Group. This unit was estab. in the Second World War, in June 1940 in order to carry out very long-range reconnaissance behind the enemy lines in the vast interior of Libya. Its sphere of activities ranged over about 600 m. inland from the Mediterranean coast and about 1700 m. westwards from the Nile. The group was formed by Brig. Ralph Bagnold, O.B.E., F.R.S., who together with other enthusiastic officers had carried out numerous exploratory trips in the desert before the Second World War. The necessary equipment and the special desert technique were evolved by them during those expeditions. At the start the group was formed primarily of officers and men of the Second New Zealand expeditionary force. It was later expanded with officers and men of the United Kingdom and Rhodesian forces. All ranks were selected volunteers. Its role began as one of reconnaissance, but its mobility, training, and knowledge of the desert fitted it

admirably for harassing the enemy offensively. Among many successful raids in which the group participated were those against enemy outposts in the Fezzan (1200 m. from base across entirely unmapped country) in the autumn of 1940, and against the garrisons of Benghazi, Barce, and Tobruk in Sept. 1942. Operations in the Fezzan were made in co-operation with the Free Fr. from Chad and started a long period of friendship with Gen. Leclerc. They were also responsible for surveying the routes used by the Eighth Army in their out-flanking movements against the El Agheila and Mareth positions. One of the most valuable and difficult tasks which the group carried out was a continuous watch on enemy movement along the main coast road. This watch was maintained day and night for many months by a series of patrols, who sent daily reports by wireless to base. In this way the Eighth Army was served with a reliable intelligence on enemy reinforcement or withdrawal.

The basic unit of the group in the desert was the patrol, which normally consisted of five unarmoured vehicles and twenty men. Each patrol was commanded by an officer and contained an expert navigator, R.E.M.E. fitter, Royal Signals wireless operator, and a R.A.M.C. orderly. They carried food and water to last a month and petrol for an all-round trip of 1500 m. Contact with base was maintained by wireless. For most of the desert campaign the group was based either in the oasis of Siwa or Kufra, where its own two aircraft were maintained for the evacuation of casualties, communication, and dropping of minor necessities to patrols on operations. At the conclusion of the desert campaign in early 1943 the group returned to the Delta and later to the Lebanon. It was re-organised to operate in Italy and the Balkans on foot, on skis, with animal transport, and to reach its target by parachute or by sea. New types of equipment were devised and obtained in order to allow operations to be carried out in European country, where it was unlikely that mechanical transport would easily operate. In Sept. 1943 the unit was sent to the Dodecanese where it became involved in the ill-fated operations on the Is. of Cos and Leros. In these operations the group lost about 100 men killed, wounded, or captured out of a total of 400. In early 1944 the unit moved to Italy to operate under F.-M. Alexander. Its primary roles were to obtain information on enemy movements, to harass the enemy lines of communications, to support partisan movements, and to provide watches on the movement of enemy shipping in the Adriatic. Patrols operated continuously in Greece, Albania, Yugoslavia, and Italy, carrying out more than 100 successful operations. After the war a L. R. D. G. Association was formed.

Long Range Navigation (Loran), see under NAVIGATION.

Longridge, *ecclies. par. and tn. of Lancs.*

shire, England, 6 m. N.N.E. of Preston. There are large stone quarries in the neighbourhood, and the industries include cotton weaving, the manuf. of nails, and the production of rayon. The Preston water reservoirs are at L. Pop. 5000.

Long Service and Good Conduct Medal, award instituted in the Brit. Army and Navy by William IV. in 1830 and 1831 respectively. The military medal is awarded to warrant officers, non-commissioned officers, and other ranks after eighteen years' service, during which character and conduct have been irrep- roachable. The medal carries on the obverse a bust of the sovereign in military uniform and on the reverse the words 'For long service and good conduct.' The ribbon is crimson with white edges. The naval medal is awarded to petty officers and other ratings of the Royal Navy and to non-commissioned officers and men of the Royal Marines after fifteen years' service with 'very good' certificate of character continuously earned. Hung on a straight clasp, the medal has on the obverse a bust of the sovereign in naval uniform and on the reverse a design of a frigate-of-the-line with the appropriate words. A medal with similar qualifications as obtain in the army is awarded in the R.A.F. It has a bust of the sovereign on the obverse and eagle and crown on the reverse. The ribbon is dark blue and crimson with white edges. L. S. medals are also awarded in certain colonial regiments associated with the Brit. Army, and in the various naval reserve forces. The Board of Trade issues a L. S. M. to rocket apparatus volunteers.

Long's Island, see WRASSAIL ISLAND.
Longstreet, James (1821-1901), Amer. Confederate general, b. in S. Carolina. He was wounded in the Mexican war, and was made a brigadier-general at the outbreak of the civil war. He took part in the battles of Bull Run, Fredericksburg, Gettysburg, and Chickamauga (1863), being chiefly responsible for the victory at the last-named. His accidental wound by his own men at a turning point of the battle of the Wilderness (1869) was of the utmost importance, as it checked the Confederates' assault at a critical moment. At the close of the war he was attacked by the extreme irreconcilable party of the S. He was minister to Turkey under President Grant, and commissioner of railways to President McKinley and President Roosevelt. He pub. *From Manassas to Appomattox* (1896), and his defence of his action at Gettysburg appeared after his death.

Longsword, William, see SALISBURY, EARL OF.

Longton, dist. of Stoke-on-Trent, Staffordshire, England. From a small hamlet it has grown into a pottery dist. of considerable size, with blast furnaces, etc. There are coal-mines in the vicinity. Until 1910 it was a separate bor.

Longueuil, Barony of, see LE MOYNE.

Longus, Gk. writer who lived probably during the fourth or fifth century A.D. He is remembered as the author of a book called *Pastoral Matters concerning Daphnis*

and *Chloe*, which is noteworthy on account of its style and simplicity. Among the various eds. may be mentioned a trans. by M. L. P. Courier (later ed. by R. Gaschet, 1911), Amyot's trans. of 1781; and G. Moore's trans., 1924.

Longview: 1. Tn. of Texas, U.S.A., situated in Gregg co., 60 m. W. of Shreveport. The chief industry is the refining of oil from the E. Texas oilfield. It has foundries and plough works, saw mills, and office furniture factories, as well as a shipping trade in lumber, cotton, hides, fruit, etc. Pop. 13,700. 2. Co. seat of Cowlitz co., Washington, U.S.A. It is one of the world's largest timber centres, and its cantilever bridge across the Columbia is the largest of its type in America. Pop. 12,300.

Longwood, see under **ST. HELENA**.

Long-wooled Sheep, see **SHEEP**.

Longwy, fortified tn. in the dept. Meurthe-et-Moselle, France, 18 m. S.W. of Luxembourg. There are iron-mines in the vicinity. In a favourite invasion route it was captured by the Gers. in Aug. 1911. Pop. 12,100.

Long Xuyen, or **Long Chauyan**, tn. of Lower Cochun-China, on the Bassac, 32 m. S.E. of Chaudoc. Communication is maintained between the tn. and the Gulf of Siam by the Rachgia Canal. Pop. (dist.) 95,000.

Lonk Breed, see **SHEEP**.

Lonneker, tn. of the Netherlands in the prov. of Overijssel. Pop. 35,000.

Lönnrot, Elias (1802-84), Finnish scholar, b. at Shammatli in Nyland. He became a country doctor, but was greatly interested in Finnish philology and folklore, and he travelled widely in Finland and Russia, collecting songs and legends. *Kanteletar* (1829-31) was a collection of folk-songs. In 1835 he pub. a first ed. of the *Kalevala*, which was a collection of legendary poems and songs, from which L. evolved a reasonably connected epic of about 12,000 lines; it deals with the fortunes of three brothers, sons of Kalewa, whose origin dates from mythological times. An enlarged ed. was pub. by L. in 1849, and a still more complete text in 1887 by A. V. Forsman. Longfellow adopted the *Hiawatha* metre from it. L. was prof. of Finnish literature and languages at Helsingfors Univ. from 1854 to 1862. To establish a literary Finnish language, for use instead of Swedish, he compiled a notable Finnish-Swedish dictionary. He also ed. *Sanolas Kufja* (1842), *Arvoituksia* (1844), and pub., amongst other works, *Flora Fennica* (1860); *Suomen kansan muinaista laisurunoja* (1880); and *Faliskaisten Suomalainen Pöytäkirja* (1883). See A. E. Ahlgvist, *Elias Lönnrot*, 1886, and J. F. Perret, *La Littérature Finlandaise*, 1936.

Lonsdale, Earl of, Eng. title borne by the family of Lowther. In 1696 Sir John Lowther, a wealthy baronet of Cumberland, was given a viscountcy, but the title became extinct in 1750 and his estates descended to Sir James Lowther who, in 1784, was made earl of L. This title too became extinct when he d. in 1802. In 1807 Sir Wm. Lowther was made earl of

L. and from him the fifth earl, Hugh Cecil Lowther (1857-1944) was descended. The present earl has won a great reputation as a sportsman, notably in boxing (he founded the contest for the L. belt) and horse-racing. The seat is Lowther Castle, Penrith.

Lonsdale, Frederick (b. 1881), Eng. actor and playwright. His chief successes include *The King of Cadonia* (1908); *The Best People* (1908); *Maid of the Mountains* (1916); *The Last of Mrs. Cheyne* (1925); *The High Road* (1927); and *Canaries Sometimes Sing* (1929). L. began his career as a dramatist in rather melodramatic fashion with *The Fake* (1924), but soon turned to the writing of sophisticated comedy in such pieces as *Canaries Sometimes Sing* and *The Last of Mrs. Cheyne*. All his maturer plays show considerable wit, the plots are ingeniously manipulated, and the characters make up in brightness and charm what they lack in significance as human beings (N. Carolyn Wilson), though there is a more serious tone in *But For the Grace of God* (1947).

Lons-le-Saunier, cap. of the dept. of Jura, France, situated on the R. Vallière, 76 m. N.N.E. of Lyons by rail. Its name is derived from the Montmorat salt-mines, which are close to the tn. The manuf. of wine is the chief industry, and there is also a trade in horses and cattle, cheese, etc. Pop. 15,500.

Loos (formerly called **Lanterloo**), round game of cards played by any number of persons. Three cards are dealt to each player, and an extra hand called 'miss,' and the top of the undealt cards is turned up for trumps. The dealer puts a stake into the pool. If the leader holds the ace of trumps he must play it, or the king if the ace is already played, or if he has two trumps he must lead one. Subsequent players must follow suit, and must head the trick if able. If not able to follow suit, but can trump, they must do so. The winner of the first trick must lead a trump if able. When the hand has been played out, the winners of the tricks divide the pool, each receiving one-third of the amount for each trick. If each declared player wins at least one trick, it is a 'single,' and a fresh pool is made as before; but if any of the declared players fails to make a trick he is loosed by paying a stake into the next pool, adding to the contribution put in by the dealer.

Loos Castle, see **VELDPOORT**.

Loos Choo Islands, see **RYUKYU**.

Loos, seaport and urb. dist. of Cornwall, England, on L. Bay, 16 m. W. of Plymouth. The urban dist. comprises W. and E. L., joined by a bridge across the riv. L. is, was once a smuggler's resort. Fishing and shipping are carried on; the Ls. were once flourishing seaports. Pop. 3600. (See illustration, p. 564.)

Loofah, or **Vegetable Sponge**, fibrous skeleton of a gourd (*Luffa aegyptiaca*). After the pulp in which the seeds are embedded has been removed, the fibre is used as a bath sponge.

Lookout Mountain, ridge in N.W. Georgia and adjacent parts of Tennessee

and Alabama, U.S.A., rising to 1600 ft. above the Tennessee R. It was stormed by Gen. Hooker in 1863.

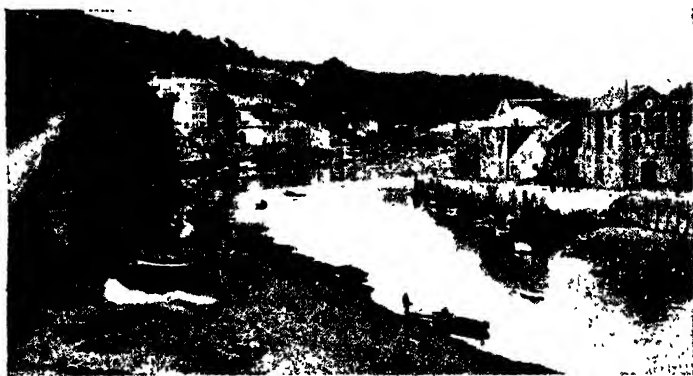
Loom, see under **CORROX**.

Loon, Hendrik Willem van (1882-1944), Dutch historian and writer, b. at Rotterdam. He went to America at the age of twenty, took a hist. degree at Cornell Univ., spent a year at Harvard, and became a journalist. He then studied hist. at Munich, and taught in sev. Amer. univs. In the First World War he was a reporter in Europe. His first book, *The Story of Mankind*, pub. in 1921, achieved great success as a popular, picturesque, universal hist. Other pub. include *The Fall of the Dutch Republic* (1913); *A Short History of Discovery* (1918); *The Story of the Bible* (1923); *Van Loon's Geography* (1932); *The Arts* (1937); and *The Story of the Pacific* (1940).

threatened with danger it either sinks the body low in the water or entirely disappears, seldom emerging before it has traversed a distance of 100 yds., or perhaps even 500, according to its idea of the extent of the danger.

Loos, Battle of, fought Sept. 25-Oct. 8, 1915. It was the Brit. counterpart to the simultaneous Fr. advance under D'Urbal, N. of Arras, following the close of Hindenburg's drive. The Brit. objective in this battle was the important mining centre, Lens, but only the outskirts were reached. L. vil. itself was occupied, together with the dominating position known as Hill 70, eastward and in advance of L. Brit. territorial battalions had a large share in the fighting. See further under FRANCE AND FLANDERS, FIRST WORLD WAR CAMPAIGN—1915.

Loosestrife, perennial herbaceous plant



LOON, CORNWALL

British Railways

Loon, tn. on the is. of Bohol, Philippine Is. It possesses a sheltered harbour. Pop. 18,000.

Loon, or Great Northern Diver, *Colymbus glacialis*, bird, principally known as a winter visitor to Britain, when it is seen on most of the coasts, and occasionally on inland waters. It also breeds in Iceland and S. Greenland, and across the whole of N. America. The head, neck, and upper tail-coverts are glossed with deep purplish green on a black ground; short transverse bar on the throat collar or middle of the neck; upper plumage black, marked with white spots; under plumage white. Total length 28 in. On account of the extreme watchfulness of this bird, and its wonderful powers of diving, specimens are by no means easily obtained by a person who has not had considerable experience of its habits. In smooth water a boat and its moving shadow can be seen from beneath the surface of the water for a considerable distance, and hence the bird is most frequently dodged and shot during a breeze. The instant it perceives itself

of the family Lythraceae. The purple L. (*Lythrum Salicaria*) is common on riv. banks and in marshy dists. It grows to about 4 or 5 ft. in height and has branching stems, lanceolate leaves, and spikes of brilliant purple flowers. Another variety is *L. vulgaris* which bears clusters of yellow flowers.

Lope de Rueda, see **RUEDA**.

Lope (Felix) de Vega Carpio, see **VEGA CARPIO**.

Lopez de Ayala, Pedro, and **Perez de Ramon**, see **AYALA**.

Lopez de Ricalde, Inigo, see **LOYOLA**.

Lopez, Francisco Solano (1827-70), Paraguayan soldier and statesman, b. at Asunción. He was the son of Carlos L., by whose will he assumed the executive in 1862, and became president for ten years. His acts of cruelty and torture bordered on insanity; in these he was influenced by Mme Lynch, a talented Irish adventuress who became his mistress. Finally he was driven from Asunción, and he retreated into the interior, where he and his eldest son were

seized and killed by a Brazilian force near the Il. Aquidaban. See study by R. B. Cunningham-Grahamo, 1933.

Lopez y Portaña, Vicente, Sp. painter, b. at Valencia, follower of Goya, and a portraitist of the classical style. See life by M. González Martí, 1928.

Lophiades, Lophides, or Angler Fishes, family of fishes with a very large mouth and teeth hinged so as to bend over towards the throat. They have a depressed body, and live on the sea bottom, often at great depth. The angler fish (*Lophius piscatorius*) is a Brit. species (see ANGLERS). The first few dorsal fin rays are long and flexible and terminate in expansions over the snout which lure small fish within reach of the great mouth.

Lophiodon, genus of extinct perissodactyl or superilluon-loed Ungulates. Fossil remains of various species are found in the Eocene strata, varying in size from a horse to a rhinoceros.

Lophobranchii, see BONY FISHES.

Lop-Nor, see LOB NOR.

Lopkova, Lydia (Lady Keynes) (b. 1892), danseuse and actress b. in Russia, daughter of Vassili Lopkova and Constantia Douglas, married the first Baron Keynes (q.v.), 1925. Educated at the Imperial ballet school, St. Petersburg. Her first stage appearance was at the Mariinsky Theatre, St. Petersburg, 1901. She took solo parts in the Imperial Russian ballet. As an actress she played in New York from 1914 to 1916, and later joined Diaghileff's Russian ballet in New York and London. She was the Lilac Fairy in Diaghileff's revival of *The Sleeping Princess* (1921); created the role of Mariuccia in Massine's *Les Femmes de bonne humeur* (1917); was with Massine and the Can-Can dancers in *La Boutique fantasque* (1919); with the Camargo Society, 1930-32, in which Lord Keynes was interested; and the Vic-Wells ballet, 1932-33. Her stage roles include Lady Olivia in *Twelfth Night* (1933); Nora Helmer in *The Doll's House* (1934); Hilda Wangel in *The Master Builder* (1936); and Celine in *Le Misanthrope* (1937). She is a member of the Arts Council of Great Britain.

Lorain, city of Ohio, U.S.A., in L. co. on Lake Erie, 25 m. S.W. of Cleveland. There is a good harbour. Various steel goods are produced, and it has ship-building yards and a fishing industry. Pop. 44,100.

Loran, see under NAVIGATION.

Lorea, Federigo Garcia (1899-1936), sp. poet and playwright, b. at Puentevaqueros. A collection of poems in 1921 was followed by *Cancones* in 1927 and *Romancero* in 1928. In 1931 he founded La Barraca, a dramatic touring company. His plays include *El Maleficio de la Mariposa* (1920); *Donde de Sangre* (1933); and the poems *Doña Rómula la Soltera*; *Perma*; and *La Casa de Hernando*. Among his best poems is his lament for the torador Sanchez Molinas. He was killed by the Falangists. See life by E. Montg. 1944.

Lorea, city of Spain, in the prov. of Murcia, 33 m. S.W. of Murcia. There are Rom. antiquities, Moorish walls and

towers, and a twelfth-century cathedral. There are lead- and silver-mines in the dist., and manufs. include textiles, chemicals, gunpowder, and porcelain. Pop. 73,300.

Lord, John (1810-94), Amer. historian, b. at Portsmouth, New Hampshire. He was a Congregational pastor and lectured at Dartmouth College. Among his works are *Modern History* (1850), *The Old Roman World* (1867), *Ancient States and Empires* (1869), *Ancient History* (1876); and *Beacon Lights of History* (1883-84).

Lord, word derived from the A.-S. *hlaford*, provider of food (*hlaf*, loaf, *ord*, beginning), has a variety of usages. The L. is a term applied to the Jehovah of the O.T. and to the Saviour of the N.T. All bishops and archbishops are Ls. spiritual, whilst members of the House of Ls. assume the title of Ls. temporal. It is a title given to persons of the peerage and to those who have been created peers. All eldest sons of dukes, marquesses, and earls, whilst assuming an inferior title of the peerage, have the word 'L.' by courtesy prefixed to their entire name. Younger sons of the peerage have only the word 'L.' prefixed to their Christian name and surname. There is an official employment of the word L. as in the case of the titles: L. chamberlain, L. advocate, L. high chancellor, L. chief justice, L. high constable, L. high steward, L. high treasurer, L. keeper of the great seal, L. justice general, L. president of the council, Ls. of the bedchamber, Ls. justices, etc. All judges are addressed throughout the Brit. Isles as 'My L.' when acting in their official capacity. In some cases the members of boards which represent state legislation are called Ls., as in the case of Ls. of the Treasury, Ls. of the Admiralty, etc.

Lord Chamberlain, see CENSORSHIP OF THE DRAMA; CHAMBERLAIN.

Lord Chief Justice, name given to the judge who presides over the king's bench, div. of the high court of justice. He ranks in the legal hierarchy, next to the lord chancellor and usually he is created a peer on appointment. (See also CRIMINAL APPEAL COURT OR.) The former court of common pleas of from four to nine judges was presided over in the time of Edward I. by a *capitalis iudiciarius*; later, from the earlier half of the seventeenth century, the four judges of the court were presided over by a L. C. J. The third co-ordinate court of common law, the old court of exchequer, was presided over by a chief baron of the exchequer first appointed in 1312. See also COMMON PLEAS, COURT OF; KING'S BENCH DIVISION; EXCHEQUER COURT.

Lord High Chancellor, see CHANCELLOR. **Lord High Steward**, see HIGH STEWARD OF ENGLAND.

Lord Howe Island, situated in the Pacific Ocean midway between Norfolk Is. and Sydney, about 520 m. E.N.E. of Sydney. It is a dependency of New S. Wales, some 3200 ac. in area, and is of great natural beauty, rich in bird life and rare plants. The is. is of volcanic formation and has coral reefs. Discovered in 1788, it was

first settled in 1853 by a party of Maoris from New Zealand, and other settlers from Sydney followed them. None but the descendants of these early settlers may now establish themselves permanently in the Is. It is the home of the handsome and hardy Kentia palm, the export of the seed of the plant being the staple industry, in which all persons b. on the Is. (they number about 150) are entitled to share. L. H. is also the name given to Mopha Is. of the Society Group, and to Ongtong, Java, of the Brit. Solomon Is., the latter being an atoll. The Santa Cruz or La Pérouse Is. in the Pacific are also known as the L. H. Is.

Lord-Lieutenant of Ireland, see IRELAND.

Lord-Lieutenant, The (of a co.), is nominated by the sovereign by patent under the great seal. He stands as the permanent local representative of the Crown, and is responsible for the maintenance of public order. This title was first created in the reign of Henry VIII., and entailed many responsibilities. The L.-L. had to maintain the efficiency of the militia of the co., and had the right of appointing his own officers. These rights were withdrawn in 1871 and vested in the Crown. The chief duties imposed on the L.-L. in present times consist in the appointment of magistrates for the co. bench, the appointment of deputy lieutenants, and the raising of the militia, if need be, in times of riot or invasion. He is, as a rule, a peer or baronet, a large landowner, and is often appointed *custos rotulorum*.

Lord Mayor of London, see LONDON.

Lord of Misrule was the 'master of mirth and fun' appointed in the king's court for the feast of Christmas. His nomination took place on All Hallows' Eve, and he remained in office till the feast of Purification. According to Stubbs these mock dignities had from twenty to sixty officers under them, and were furnished with hobby-horses, dragons, and musicians. In Scotland they received the title of 'Abbot of Unreason.'

Lord of the Isles, see ISLES, LORD OF THE.
Lord President of the Council, see PRESIDENT OF THE COUNCIL, LORD.

Lord Privy Seal, see SEAL, LORD PRIVY.

Lord Provost, see under PROVOST.

Lords-and-Ladies (botany), see ARUM.

Lords Appellant, see APPELLANTS.

Lord's Day, see SABBATH.

Lord's Day Observance Society was founded in 1831. Its aim is to promote the religious observance of the Christian Sunday, and 'to resist all sports and amusements which would tend to assimilate the traditional quiet British Sunday to the continental Sunday.' Its methods consist of sermons in churches, talks in schools, youth meetings, and circulation of scriptural pubs. The society's watchword is 'For our Lord and His Day.' Headquarters: Lord's Day House, 55 Fleet Street, London, E.C.4.

Lords, House of, see PARLIAMENT.

Lord's Seat, commanding viewpoint, over 2000 ft. high, of Edale, Cumberland, England, in the possession of the National Trust.

Lord's Supper, see EUCHARIST.

Lord Steward, see HIGH STEWARD OF ENGLAND.

Loreburn, Sir Robert Threshold Reid, first Earl of (1846-1923), Brit. lawyer, second son of Sir James John Reid. Educated at Cheltenham College and Balliol College, Oxford, where he took a first class in moderations and in Literae Humaniores, he was called to the Bar in 1871. Solicitor-general and then attorney-general in 1895, he was M.P. for Dumfries, 1886-1905, and received a decoration for his services in the Boundary Arbitration Commission. He was knighted in 1894 and created Baron L. in 1906. Lord chancellor, 1905-12, he became an earl in 1911. Wrote *Capture at Sea* (1913) and *How the War Came* (1919). The title became extinct on his death.

Lorelei, or Lurlei, name given to a rock rising steeply on the r. b. of the Rhine near St. Goar, in the Rhineland, Germany. There are many legends associated with the L., which possesses a wonderful echo. One legend runs that a maiden sits upon this rock combing her glorious hair and tempting fishermen to death by the surpassing sweetness of her song, which makes them approach the rock too closely. Another legend makes this rock the hiding-place of the Nibelungen treasure. Mechen-dorf, Loeben, Heine, and others have used the legends in poems, stories, and songs. Heine's *Ich weiss nicht, was soll es bedeuten* was set to music by Schlegel.

Lorentz, Hendrik Antoon (1853-1928), Dutch physicist, b. at Arnhem. He was educated at Leyden Univ., where he was subsequently prof. of physics. His researches in electro-dynamics won for him and his pupil, Zeeman, the Nobel prize for physics in 1902. It was L. who propounded the theory that magnetism and light result from the interaction of electric charges forming the ultimate connection between ponderable matter and ether. His researches paved the way for the famous theory of relativity of his other pupil, Einstein. He also advanced research work in the theory of gases, radiation, and thermo-dynamics. Among his numerous honours were the award of the Rumford and Copley medals of the Royal Society of Great Britain, the position of a foreign associate of the National Academy of Sciences of the U.S.A., and the degree of D.Sc. of Cambridge Univ. In 1919 he was chairman of the Committee of Intellectual Co-operation of the League of Nations. Pubs.: *Text-book of Differential and Integral Calculus* (1882); *Text-book of Physics* (1888-90); *Clerk-Maxwell's Electro-magnetic Theory* (1892); *Theory of Electrical and Optical Phenomena in Moving Bodies* (1895); *Treatise on Theoretical Physics* (1907); *Les Théories statistiques et thermodynamiques* (1916); *Theory of Electrons and its Applications to the Phenomena of Light and Radiant Heat* (2nd ed., 1916); and numerous contributions to the periodicals of various learned and scientific societies.

Lorenzetto, Pietro, It. painter, b. at Siena towards the end of the thirteenth century, some of his pictures being dated

earlier than 1305. His best works are 'The Nativity of the Virgin'; 'The Invention of the Cross' (1338); and a group of figures in the Siena Museum. His brother, called *Ambrogio L.* or *Ambrogio di Lorenzo* (c. 1266-1348?), was also a painter. In 1337-39 he executed in the Palazzo del Pubblico some frescoes representing the saints worshipping at the feet of God the Father, which have suffered much from the passage of time.

Lorenzo di Medici, *see* MEDICI.

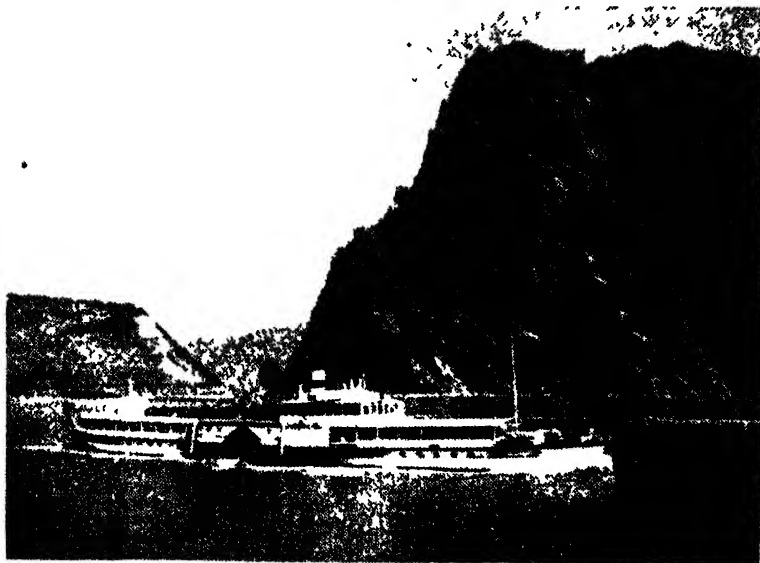
Lorenzo Marques, *see* LOURENÇO MARQUES.

Casa, though no allied troops were quartered in the building. The roof of the dome and that of the nave were burned but, considering the violence of the attack, the damage was miraculously small, though the frescoes by Signorelli and Melozzo da Forlì were damaged. Pop. 9000.

Loretto, Scottish public school at Musselburgh, Midlothian, founded in 1827.

Loria, Isaac Ben Solomon, *see* LURIA.

Lorient, before the Second World War a fortified seaport, which ranked as the



THE LORELLI AND THE RHINE, NEAR ST. GOAR

Loreto: 1. Dept. of Peru, situated in the valley of the Amazon. The dist. is densely wooded and consequently difficult of approach. It is watered by the R. Ucayali and Huallaga, between which lies a large plain, the Pampas del Sacramento. Salt, rubber, tobacco, cinchona, and gold are produced. Area 119,270 sq. m. Pop. 108,000. 2. Or Loretto, city of the Marche, Italy, 15 m. S.S.E. of Ancona. It is a famous resort for pilgrims because of the Santa Casa, or Holy House, of the Virgin, which is reputed to have been brought over from Nazareth by angels in the thirteenth century. A magnificent church holds the sacred shrine which is adorned with most costly treasures. The Rom. Catholic Litany of L. in honour of the Blessed Virgin takes its name from this shrine. The tn. was bombed on the night of July 5-6, 1944, by the Gers. who concentrated many waves of bombers in an attack on the sanctuary of the Santa

most important centre in France for the building of men-of-war. It lies on the S. coast of Brittany in the dept. of Morbihan. The port was divided into a commercial and naval harbour. The naval port is situated at the mouth of the R. Scorff and possesses quays upon which were built (1939) enormous workshops, foundries, and estabs. of all kinds for the construction and equipment of men-of-war. Long-boats and canoes were built at Pré aux Vases, whilst the heavy battleships were built at Caudan. The port was well protected by forts, the most prominent one being St. Michel.

In the Second World War the port was frequently bombed by the R.A.F. and, later, by the Amers, after it had fallen into Ger. hands. It was an important Ger. submarine base during the war and the destruction of its facilities (as well as those of St. Nazaire) was vital to the allied cause. Amer. Fortresses attacked L.

constantly in the autumn and winter of 1942. During Jan.-Feb. 1943 L. and its submarine pens, capable of berthing thirty U-boats, was a frequent target for allied aircraft. It was attacked in eight major night raids in addition to a heavy daylight raid on Jan. 23. The raids reached a climax on the night of Feb. 13 when 1000 tons of bombs were dropped on the port and there were almost equally heavy raids later, especially on the electric power station on March 6. By that time the port had been for the most part razed to the ground and the civilian pop. had to leave. It was one of the last places in Brittany to be yielded up by the Gers. after the allied break-through in Normandy. After the war the streets of L. consisted of two parallel lines of piled rubble. The Cours de la Bève could be identified only by the chestnut-trees under which fashionable L. used to foregather in the evenings before the war. It would be impossible for the stranger to imagine what manner of tn. this was, because there remained of the tn. proper not even a wall on which a street name might be found to remind the returned traveller of the one-time jostling crowds, cafés, and uniforms. Pop. (1939) 43,000.

Loris, name given to certain types of lemurs, of which the two best known are the Grey Slow L. and the Slender L. They are nocturnal in habits and are found in W. Africa, India, and China.

Lorraach, tn. of Baden, Germany, 4½ m. N.E. of Basle. It has manufs. of cloth, calico, etc. Pop. 20,300.

Lorraine, Claude of, see **CLAUDE**.

Lorraine, Mary of, see **MARY OF GUISE**.

Lorraine (Ger. Lothringen), anct. prov. of the N.E. of France which was originally that portion of the empire of Charlemagne which fell to Lothair by the treaty of Verdun in 843, and was called Lotharingia. Later it consisted of the depts. of Meurthe-Moselle, Meuse, and Vosges. The name was originally given to two ters. between the Saône and the Rhine, the N. portion between the Moselle and the Rhine bearing the name Upper L. and the S. portion Lower L. The latter soon became known as Brabant, and the name L. became confined to the Moselle country. It was an area of constant dispute between France and Germany. In 1736 the Fr. obtained the duchy for the ex-

king of Poland, Stanislas, whose daughter had been married to Louis XV. In 1766 the death of Stanislas was followed by the incorporation of L. with France, until 1871, when it was annexed by Germany, forming one of the three dists. of Alsace-Lothringen. For its subsequent hist. see **ALSACE-LORRAINE**.

Lorraine, Cross of, red cross, with two horizontal cross-pieces, on a blue ground. It was the irredentist emblem carried by Joan of Arc, Lorraine still being, in her time, in the possession of vassals of the



CROSS OF
LORRAINE

ground. It was the irredentist emblem carried by Joan of Arc, Lorraine still being, in her time, in the possession of vassals of the

Ger. king. The cross was adopted by the Free Fr. Forces of Gen. de Gaulle in 1940 as an emblem of resistance to the Ger. occupation.

Lorris, Guillaume de (c. 1215-c.1240), Fr. poet, b. at Lorris. Little is known of his life, except that he was the author of the famous medieval poem, *Roman de la rose*, which was finished by Jean de Meung about 1277.

Lory (*Lorius* or *Electus*), genus of brilliantly coloured parrots. They are honey eaters, and the bill is but slightly curved, and the tongue long and protrusible. Also a S. African name (Louri is the native name) for the white-crested plantain eater (*Corythaix muscophaga*). It is about 10 in. long, its general colour is green, and the feathers of its beautiful crest are tipped with white; the wing feathers are brilliant carmine.

Los Alamos, settlement in the New Mexican desert, U.S.A., N.W. of Santa Fé, one of the three dists. of the atomic bomb project. It covers 70 sq. m. and in 1948 had a pop. of 8000, principally of scientists and staff.

Los Andes: 1. Or Santa Rosa de los Andes, tn. in Chile, 65 m. E.N.E. of Valparaiso, at the foot of the Uspallata Pass. Mining and stock-raising are carried on. Pop. 6000. 2. Former ter. of Argentina, with an area of 28,000 sq. m., taken over by Argentina in 1899. In 1943 it was abolished and divided between the provs. of Jujuy, Salta, and Catamarca.

Los Angeles: 1. City of California, U.S.A., co. seat of L. A. co., 350 m. S.E. of San Francisco. The Spaniards settled it in 1781. Alternately with Monterey, it was the cap. of Mexican California. Taken by U.S.A. in 1846, when it was already a thriving place, it is now the largest city in area (248,334 ac.) in the U.S.A. In size and pop. it has now outstripped the rival city of San Francisco, and is one of the chief commercial ports of California. Exports in normal years are valued at \$140,000,000 and imports at \$80,000,000. Its industrial area has been increased by a large automobile assembly plant, and also the works of the Fokker Aeroplane Company. L. A. is one of the largest manufacturing tns. of the U.S.A. Its chief industries are petroleum refining, printing and publishing, meat packing, foundry and machine shop products, clothing, lumber and planing mill products, while Hollywood, the suburb of L. A., is the centre of the Amer. motion picture-making industry. The L. A. city hall, a white stone structure, was completed in 1928. The univ. of S. California at L. A. has some 16,000 students (1938-39). It is the base of the Pacific fleet, and there is an airport. The climate is ideal, with long, dry summer, clear air, mild winter, and it has made L. A. a favourite resort and place of residences. The pop. is 1,845,700. See H. Carr, *Los Angeles, City of Dreams*, 1935; C. Landery, *Hollywood is the Place*, 1940; and Amer. Guide Series, *Los Angeles: a Guide to the City and its Environs*, 1941. 2. Cap. of the prov. of Biobío, Chile, stands at an altitude of 550 ft. Pop. 12,000.

Losinoostrovsk, tn. in the R.S.F.S.R. Pop. 70,400.

Los Islands, small group lying off the W. coast of Africa, are of volcanic origin, and belong to the Brit. colony of Sierra Leone; their names are Factory, Tamara, and Ruma.

Los Rios, prov. of Ecuador, on the W. slope of the Andes, with Guayas prov. to the W. and Bolívar prov. to the E. The prin. occupations are stock-raising and agriculture. Cap. Babahoyo. Area 2295 sq. m. Pop. 150,800.

Löss, see **LOESS**.

Lossiemouth, seaport of Elginshire, Scotland, stands at the mouth of the R. Lossie on the Moray Firth, and has a very fine harbour. Bp. of James Ramsay MacDonald, the first Labour Prime Minister of Great Britain. Pop. 4400.

Lossin, see **LUS-AN**.

Lost Property. If anything is lost the owner can claim it at any time from any one he sees in possession of it; the one who finds the article is entitled to it next after the owner provided he comes upon it in a public place. But should the finder keep the property when he finds the owner he is guilty of theft. So too is the man who discovers a valuable brooch while digging in another man's garden and fails to give it up; for the owner of private land is entitled to all found on it. But the mere keeping of a lost article, in hope of getting a reward for giving it up, though the owner be known, does not amount to theft, and there is no obligation on the finder of L. P. to incur expense in advertising for the owner.

Lost Tribes. In 721 B.C. a large number of the Israelites of the N. Kingdom, the ten tribes, were carried into captivity by the Assyrians under Sargon. These people subsequently disappeared from hist., thus gaining the title of the L. T. Other deportations occurred, notably that under Nebuchadnezzar, of a large portion of the prin. inhab. of Judah, after the fall of Jerusalem (586 B.C.), but these are reported to have returned when Cyrus overthrew the Babylonian empire (538 B.C.), whereas no authentic account of the N. tribes is forthcoming. A very improbable theory, originated by John Sadler in 1649, and still held by some people, is that the Eng. are descended from these L. T. These people assert that the Israelites were carried into Media, and they identify them with the Saces or Scythians, who appeared as a conquering horde there about the same time. And they further claim that those Saces spread over N. Europe, and so became the progenitors of the Saxon invaders of England.

Lostwithiel, municipal bor. and mkt. tn. of Cornwall, on the Fowey, 21 m. N.E. of Truro; it contains the ruins of Restormel Castle, built in the time of Henry III. Pop. 2000.

Lot, spoken of in Gen. xi. 27 as the son of Haran, the brother of Abraham, accompanied his uncle in the journey from their fatherland. He was allowed by Abraham to choose for himself the prosperous country in the Jordan valley near Sodom and Gomorrah. On the approaching

destruction of these two cities, he and his family were led from Sodom by two angels, and an addition to the story is made, telling the fate of L.'s wife. He took refuge in the mts. near Loar, and here he became the father of Moab and Ammon by his two daughters. This incident is possibly an insertion from another story.

Lot, dept. of S.W. France, formed in 1790 from the dist. of Quercy. It has three arrons., Cahors, Figeac, and Gourdon. The surface, which is varied, is crossed from E. to W. by the L. and is highest in the N.E. Wheat is the chief cereal, but maize, oats, and barley are cultivated to a large extent. Wine is the prin. product, the most valued being that of Cahors, grown in the valley of the L. Large quantities of chestnuts come from the N.E., and the dept. also produces potatoes, tobacco, and hemp. The chief minerals are coal, iron, and zinc; cloth-making, tanning, brewing, and the making of agric. instruments are among the industries. Cap. Cahors. Area 2018 sq. m. Pop. 154,800.

Lot, riv. of S. France, the anct. Oltis, which rises in the Lozère Mts., flows through the depts. of Lozère, Aveyron, L., and Lot-et-Garonne, passing Mende, Espalion, Entraygues, Cahors, Penne, Villeneuve d'Agen, and joins the Garonne near Alguillon. It has a length of 300 m., and the area of its basin is 4350 sq. m.

Lotario de' Conti, see **INNOCENT** (popes), *Innocent III.*

Lot-et-Garonne, dept. of S.W. France formed from parts of Guienne and Gascony. Its surface, which consists mainly of wide plains, is traversed by the Garonne from S.E. to N.W., and by the Lot from E. to W. The valleys of these rivers are exceedingly fertile, and the slopes of the low hills are covered with orchards and vineyards; coal forests occur. The soil is highly cultivated, wheat being the chief cereal, then maize and barley. Hemp and mulberry leaves are also products of the prov., and the vine covers about 9 per cent of the surface. Minerals are few, although large quantities of iron are found. The chief tn. is Agen, which is also the seat of a bishopric and of the court of appeal for the dept. Area 2079 sq. m. Pop. 265,100.

Lothaire I. (790-855), Rom. emperor, was the eldest son of the Emperor Louis I., who divided the empire among his sons in 817. He undertook the government of Italy in 822, and was crowned emperor at Rome in 823. He was alternately master of the empire, and banished and confined to Italy. He claimed the whole of the empire on his father's death, but was defeated by his brothers at Fontenoy (841), and by the treaty of Verdun (843) received Italy and 'the imperial title, together with some land in the valleys of the Rhine and Rhone. He renounced the throne in 855 just before his death.

Lothaire II. (d. 1070-1137), called 'The Saxon,' a Rom. emperor, succeeded to his father's lands around Helmstadt in Saxony in 1075, and became duke of Saxony in 1106 on the death of Magnus.

He was elected king of Germany in 1125, succeeding Henry V., and was crowned emperor at Rome by Pope Innocent II. in 1133.

Lotharingen, or Lothringen, *see* LORRAINE.

Lothian, Philip Henry Kerr, eleventh Marquess of (1883-1941), Eng. statesman and ambas., son of Maj.-Gen. Lord Ralph Kerr. After leaving New College, Oxford, he went to S. Africa, becoming one of 'Milner's young men.' In S. Africa he ed. the *State*, a paper founded to promote S. African union, and on returning to England became editor of the *Round Table*. In 1916 he became secretary to the Premier, Lloyd George, and played an important part in the peace conference at Versailles. Later he was appointed secretary of the Rhodes trust. On accession to the peerage in 1930 he sat in the House of Lords as a Liberal and, in 1931, became chancellor of the duchy of Lancaster in Ramsay MacDonald's National Gov. Later he was under-secretary of state for India and chairman of the Indian Franchise Committee. In 1939 he became ambas. to the U.S.A. in succession to Sir Ronald Lindsay. His knowledge of and sympathy with Amer. problems made his appointment outstandingly successful and he became a popular figure with the Amer. people. His unceasing efforts in the cause of Anglo-Amer. friendship received tribute from President Roosevelt and Mr. Cordell Hull. He collaborated with Mr. Lionel Curtis in writing *The Prevention of War* (1923), which, based on the lessons of Amer. hist., upheld the thesis that war could only be prevented by the estab. of a commonwealth to include all humanity.

Lothian Regiment, *see* SCOTS, ROYAL.

Lothians, The, dist. on the S. side of the firth of Forth, which includes the co. of Haddington, Edinburgh, and Linlithgow, which are called respectively E. Lothian, Mid-Lothian, and W. Lothian. It formerly embraced the E. part of the Lowlands from the Forth to the Cheviots, i.e. all the Eng. part of Scotland in the eleventh century.

Loti, Pierre (Louis Marie Julien Viaud) (1850-1923), captain in the Fr. Navy and novelist, b. at Rochefort. His real name was Julien Viaud. He served throughout the Tongking campaign with distinction, but retired from active service in 1883. He was elected a member of the Fr. Academy in 1891, succeeding the celebrated romanticist, Octave Feuillet. As an author he was the very antithesis of Zola, and his works marked a revival of the spirit of romanticism in Fr. literature. Pubs. include *Le Mariage de Loti* (1880); *Mon Frère Yves* (1883), describing the life of a Fr. bluejacket; *Pêcheur d'Islande* (1886), describing life among the Breton fisherfolk, the most popular of all his writings; *Propos d'exil* (1887); *Ramuntcho* (1897); *L'Inde sans les anglais* (1903); *Disenchanted* (1906); *Pelléas d'Angkor* (1912); *L'Horreur allemande* (1918); and *Figures et choses qui passent* (1920). An Eng. trans. of his early recollections, *Notes of My Youth*, appeared in 1924. A

monument in Tahiti was unveiled to his memory in 1934. *See* lives by N. Serban, 1924; E. d'Auvergne, 1926; R. Lefèvre, 1934; and P. Flottes, *Le Drame intérieur de Loti*, 1937.

Lotions, liquid washes used as remedies for bruises, sores, and enlarged joints. They are usually solutions of various salts, and differ from embrocations or ointments in that oils or fats are absent. The chlorides of ammonia, soda, and lime are common washes. Sal ammoniac with vinegar or spirit is used for application when there is no open wound; chloride of lime or soda for ulcerated mouth and throat or tumours. Calomel in lime water, known as *black wash*, is a more efficient lotion for obstinate ulcers.

Lotophagi (Λωτοφάγοι, lotus-eaters), a people mentioned by Homer, who lived on the fruit of the lotus, the taste of which was so delicious that any one who ate it lost all desire to return to his native country. In historical times the Gks. came across people who used the fruit of the lotus as an article of food on the N. coast of Africa, and called them L. But it has also been said that they inhabited the large is. of Moninx or Lotophagitis, adjacent to this coast. They carried on a commercial intercourse with Egypt and with the interior of Africa, using the caravan routes that are in existence to-day.

Lots, Casting, system of divination common among primitive and civilised peoples alike. The most common method is by pieces of wood or straw, which are marked and covered up, one or more being then drawn out at random. Tacitus speaks of this method being used by the ant. Teutons. The Romans also made use of the famous *Sortes Virgilianae*, which were performed by opening a copy of Virgil and drawing deductions from the first lines that caught the eye. Other books were also made use of, and the custom passed into the Christian Church. We find many canons and penitentials condemning the practice of using the gospels, psalters, etc., in this way. *See* also DIVINATION.

Lotschberg, or Lötsebenpass, pass in the Swiss Alps, linking Kandersteg with the Lötschental, a side valley of the Rhone in the canton of Valais.

Lottery, in Eng. law, is a statutory public nuisance, though on the Continent such form of competition is both authorised and carried on by the state. The essence of a L. is the award of prizes by lot or mere chance, the commonest form taking the shape of money prizes for drawing a winning number. Theoretically a competition is not a L. if some degree of skill, however slight, is requisite to securing a prize, but the adverse decisions of the high court to the continuance of the 'Limerick craze' and 'progressive whist drives' (*see* GAMBLING) are against the old theory, and indicate that if the court is either not satisfied that a particular form of competition of mixed skill and chance is conducted fairly, or thinks that the element of chance altogether predominates over that of skill, it will construe the com-

petition as a L. Formerly state Ls. were authorised by various Acts of Parliament in England, but they were dropped in 1824, and any one who allows a L. to be carried on upon his premises may be liable to a fine not exceeding £100, while any one who sells tickets for a L. is liable to a fine not exceeding £50, and in each case the offender may be dealt with under the Vagrancy Act, 1821, as a rogue and vagabond.

The only kind of Ls. allowed by the law are art union Ls., conducted by societies (incorporated by royal charter) with the express object of distributing works of art; this being a special and exclusive privilege in the interests of art. Selling packets of tea or any other commodity with coupons attached entitling the purchaser to some prize of problematical value constitutes a L., but not so 'football pools.' It is to be noted, however, that competitions for guessing the results of football matches or forecasting any other uncertain event may come within the Betting Act. A L. is essentially a betting transaction, although a greater or less degree of skill may be employed, and if the proprietor of a newspaper or any other concern habitually conducts so-called 'skill' competitions at his offices and takes ready-money in the shape of a preliminary deposit, he will probably find that his activities will become the subject of criminal proceedings.

The popularity in Britain of the Irish Hospitals Sweepstake led to the passing in 1934 of a new Act prohibiting the printing of news regarding foreign Ls. in Brit. newspapers and strengthening the law in other ways, despite the fact that a commission had reported, in 1933, in favour of the legislation of private Ls. under stringent supervision. See also CALCIUTA SWEEPSTAKE; GAMING. See G. ARCY, *Jeux de hasard*, 1923; C. F. Schoolbred, *Lotteries and the Law*, 1928-31; C. Ewen, *Lotteries and Sweepstakes in the British Isles*, 1932; and G. Martin, *Gambling and the Citizen*, 1919.

Lotto, Lorenzo (c. 1480-1555). It. religious painter. b. at Venice. His most celebrated altar-pieces are to be seen in the churches of the Carmine and SS. Giovanni e Paolo, Venice, the cathedral of Asolo, and at Monte San Giusto, near Ancona, where the church contains a Crucifixion containing twenty-three life-size figures. See life by B. Borsonson, 1895.

Lotus, large genus of leguminous perennials. Some of them are low and prostrate and others of shrubby habit. *L. Bertholletii* (synonym *peliorhynchus*), a valuable plant for hanging-baskets in the greenhouse, bears large red pea-shaped blooms and silvery foliage. A number of species are Brit.; the bird's-foot trefoil (*L. corniculatus*) is abundant in pastures, and is sometimes grown in the rock garden. Two small species occur rarely on the S. coast. The sacred *L. (Nelumbium speciosum)* is believed to have been the Egyptian *L.* of ant. hist., though it does not now occur in Egypt (see NELUMBIVUM).

Lotus Eaters, see LOTOPHAGI.

Lotze, Rudolf Hermann (1817-81), Ger. philosopher and physiologist, b. at Bautzen. His first essay was *De futurae biologiae principibus philosophicis*, with which he gained his M.D. in 1838. But he laid the foundation of his philosophical system in *Metaphysik* (1841) and his *Logik* (1843). These books, however, remained unnoticed by the reading public, and he first became known as a physiologist combating the then accepted doctrine of vitalism, his physiological works being *Allgemeine Pathologie und Therapie als mechanische Naturwissenschaften* (1842 and 1848), *Allgemeine Physiologie des Körperlichen Lebens* (1851), and *Medizinische Psychologie oder Psychologie der Seele* (1852). His great work, however, was his *Mikrokosmos* (1856-64), and this gives a comprehensive statement of his opinions on nature and man, and shows him to be essentially the philosopher of the transition from the exaggerated idealism of the first half of the century to the most recent modifications of materialism. This book has run through four eds., and has been trans. into Eng. (1890). Other notable works of his are *Geschichte der Ästhetik in Deutschland* (1868); *System der Philosophie* (1874-79); *Logik* (1874, 1880, trans. 1884); and *Metaphysik* (1879, trans. 1884). L. was prof. of philosophy at Leipzig in 1842, and in 1845 was appointed to the chair of speculative philosophy at Göttingen, where he remained until 1880. See studies by H. Jones, 1895; E. Becher, 1917; and H. Johansen, 1927.

Loubet, Émile François (1838-1929), president of the Fr. republic from 1899 to 1906, b. at Marianne, Drome. He studied law, and became mayor of Montélimar in 1870. He entered political life in 1876, and showed himself to be the enemy of the Monarchist coalition. He fought the clerical system estab. by the Loi Falloux, and worked hard for free elementary education. He supported the Gambetta and Ferry ministries, and voted for Tongking and Tunis credits. In 1885 he became senator, and two years later was appointed minister of public works. In 1892 he became minister of the interior, and in 1895 president of the Senate. He was a warm friend of President Faure, and on the latter's sudden death was called upon to fill his place. During his presidency the Dreyfus case was settled, and the Fr. ambas. was recalled from the Vatican, the separation of Church and State being voted in the Chamber of Deputies.

Loudon, or Laudon, Gideon Ernst Freiherr von (1717-90), celebrated field marshal of the Austrian Army, b. at Tootzen, Livonia. He entered service of Maria Theresa in 1743, having previously been ten years in the Russian service and gained distinction in sev. exploits. During the Seven Years war he contributed greatly to the victory of Hochkirch, as also to that of Kunersdorf, where Frederick the Great commanded in person. L. also commanded during the War of the Bavarian Succession (1778) and the Turkish war (1788-89), when he gained sev.

victories and captured Belgrade. See lives by W. von Janko, 1869, 1903, and G. B. Mallison, 1894.

Loudon, John Claudius (1783-1843), Scottish horticultural writer and landscape gardener, b. at Cambuslang, Lanarkshire. He was apprenticed at fourteen to a nurseryman and landscape gardener but continued to attend classes in Edinburgh in general subjects. L. found employment in London where, in 1803, he pub. his first essay, *Observations on Laying out Public Squares*. But his greater interest lay in rural rather than in urban development, as shown by his next pamphlet, *An Immediate and Effective Mode of Raising the Rental of the Landed Property in England*, prompted by his conviction of the superiority of Scottish over Eng. farming. In 1809 he rented the large farm of Tew Park in Oxfordshire, where he took pupils in agriculture; by 1812 he had made a fortune of £12,000, which enabled him to leave his pupils and study farming and gardening methods on the Continent. Through injudicious investing he soon lost his fortune and thereafter wrote encyclopedic works on agriculture and the like, and ed. magazines on the same topics. His *Encyclopaedia of Gardening* (1822) shows no trace of his foreign visits. His *Encyclopaedia of Agriculture* and *Encyclopaedia of Plants* were pub. in 1825 and 1829 respectively. In 1826 he had begun publishing the monthly *Gardener's Magazine*, which he ed. until his death, and in 1828 he began the pub. of the *Magazine of Natural History*. About this time he superintended the laying out of the Birmingham Botanical Garden. In 1832 he began the compilation of the *Encyclopaedia of Cottage, Farm, and Villa Architecture*. Its success led to the pub. of *Arboretum et Fruticetum Britannicum* in monthly parts, his most valuable but, financially, his most disastrous work. His remaining years were spent in a desperate effort to repay his indebtedness on this account. He did much for the development of Great Tew vil. (q.v.). L. is commemorated by a genus *Loudonia* described by Lindley, and an oil painting of him by Linnell was presented by subscription to the Linnaean Society.

Loudspeaker, instrument for the conversion of electrical energy into sound at a level which can be heard by one or more persons. It is in general use in connection with most types of communications equipment, domestic wireless receivers, and public address systems. In its early form the L. was derived from the simple telephone receiver earpieces which was fitted with a horn to give a concentration of sound. This sound was produced by a thin metal diaphragm which was caused to vibrate by an electro-magnet placed close to it, and whose coils carried the audio-frequency current from an amplifier. The efficiency of such an arrangement was very low, and the response to notes of different frequencies most uneven. There were marked resonances which rendered the reproduced speech or music unpleasant to the ear, and unlike the

original in many of its characteristics. As time went on, however, many of these drawbacks were overcome, and the diaphragm was replaced by a steel reed joined to a paper or parchment cone which had the vibrations imparted to it axially. This arrangement was then known as the 'moving-iron' L., and was widely used in domestic wireless receivers. As the demand grew for more faithful reproduction of sound sev. other principles were applied to L. design, e.g. the condenser and crystal Ls. made their appearance. The first of these depended for its action on the electrostatic forces brought into play between a diaphragm and a fixed surface when an audio voltage was applied between them, while the second relied on the piezoelectric effect present when an electric voltage is applied to a crystal of Rochelle salt or similar substance. Their success was, however, limited as they were soon superseded by the moving-coil L., which in its various forms fulfils almost all requirements. In essentials it consists of a small coil of wire suspended in an annular gap between the poles of either a permanent or electro magnet. This coil is joined to the apex of a light paper, parchment, or metal-foil cone, and the assembly is free to move within limits along its axis so that any movement of the coil is imparted to the cone, and thence to the air in front and behind it. The audio-frequency current is passed to the coil whose movement, induced electromagnetically, faithfully follows its variations. As the impedance of the coil is low it is usually coupled to the output valve by means of a step-down transformer, the latter often being incorporated with the L. The recent advances in high flux density permanent magnets have resulted in a L. which is both compact and efficient, and which is employed in all modern domestic wireless receivers. When in a suitable cabinet or on a baffle board this type is capable of a high degree of fidelity with few of the shortcomings of the earlier varieties.

A field of application in which L. design has become largely specialised is that of public address where it is required to project sound at a high power level in given directions so that it may be heard by large crowds, often over a wide area. The cone of such a L. unit is relatively small, being only 3 or 4 in. in diameter, and made of spun aluminium foil to withstand stresses at which the weaker parchment cone would collapse. The speaker unit feeds into a large horn which provides the requisite air loading and directivity. Such Ls. are usually employed in groups, often in conjunction with a number of the more ordinary cone type, which give a shorter range, but wider coverage. The high power units can handle power of the order of ten watts and upwards, and can project sound over considerable distances. A public address installation may employ very large numbers of Ls. with horns designed to give the directivity and sound distribution required. Speakers are usually divided into groups so that the sound level may be adjusted for each one

independently to obtain an even distribution of sound over the area. Such an installation may require sev. hundred watts of electrical audio power, and considerable skill is required in the placing and choice of Ls. to obtain optimum results.

Loudun, Ernst Gideon, Baron von (1717-1790), Austrian soldier, b. in Livonia, of Scottish extraction. He left the Russian Army to enter Austrian service and twice defeated Frederick the Great during the Seven Years war. See life by G. B. Mulleson, 1894.

Loughborough, Baron, see WEDDERBURN, ALEXANDER.

Loughborough, mkt. tn. and municipal bor. of Leicestershire, on the L. Canal. The prin. industry is hosiery-making, but engineering is also carried on, and there are iron and dye works and bell foundries. It has a grammar school, founded in 1495, and a technical and scientific college. Pop. 33,200.

Loughrea, mkt. tn. of co. Galway, Eire, 10 m. S.E. of Athenry. It is the seat of the Rom. Catholic bishop of Clonfert, and has a cathedral, built 1900-. Pop. 2800.

Loughton, urban dist. and tn. in Essex, 5 m. from Epping. There is an anct. camp at L. Pop. 6000.

Louis, or Ludwig (Lewis), name of a number of Ger. emperors from the eighth century onwards:

Louis I. ('le Débonnaire' or 'the Pious') (A.D. 778-840), son of Charlemagne, succeeded him as Rom. emperor and king of the Franks (814). See B. von Simson, *Jahrbucher des Fränkischen Reichs unter Ludwig der Franzose*, 1874-76, and O. Schnürer, *Die Anfänge der Abendlandischen Volksgemeinschaft*, 1932.

Louis II. (822-75), son of Lothaire I, associated in the gov. from 849, sole emperor from 855. See Gregorovius, *History of Rome in the Middle Ages* (Hamilton trans.), 1894-1900.

Louis III. (880-924 or 928), grandson of above, succeeded his father under his mother's regency (887), and was nominal emperor from 901 to 905, being deposed and blinded by Berengar I. of Italy.

Louis IV., or III. ('l'Enfant') (893-911), last of the Carolingians, king of Germany from 900.

Louis V., or IV. ('the Bavarian') (1282-1347), elected Holy Rom. emperor with the help of Ghibelines (1314). He was excommunicated (c. 1324) by Pope John XXII., and later opposed by Clement VI. See lives by J. Fischer, 1882, and A. Steinberger, 1901; also R. Moeller, *Ludwig der Bayer und die Kurie im Kampf um das Reich*, 1911.

Louis, or Ludwig (Karl August) (1786-1868), king of Bavaria. He married in 1810 the Princess Theresia of Saxe-Hildburghausen. He succeeded in 1825, and the early part of his reign was very successful. He initiated many reforms, and ruled on the whole for the good of his people. But during the later period he adopted a more or less reactionary policy. His subjects, stimulated by the revolution of 1848, forced him to abdicate.

Louis I.-V., see FRANCE, History.

Louis II. (Otto Frederick Wilhelm), (1845-86), king of Bavaria, grandson of Louis I. of Bavaria, and son of Maximilian II. He succeeded his father in 1864. During the Austro-Prussian war he fought with the Austrians, but went ultimately over to the side of Prussia. He was the proposer of the formation of the Ger. empire in which Bavaria itself was merged. See lives by G. de Pourtales, 1929; W. Richter, 1939; R. Wagner, 1941.

Louis VI. (surnamed 'le Gros') (1078-1137), son of Philip I., with whom he was associated in the gov. from 1100, succeeding him as king of France (1105). He made Sugar, abbot of St. Denis, his chief minister, and did much for the defence of the Church. He also tried to check the power of the feudal lords of the Isle de France, and continually sought to add lands to the royal domains. His wars with Henry I. of England for the possession of Normandy were unsuccessful. See A. Luchaire, *Louis VI. le Gros*, 1889; *Les communes françaises*, 1890; and *Histoire des institutions monarchiques de la France sous les premiers Capétiens*, 1891.

Louis VII., VIII., see FRANCE, History.
Louis IX. (1214-70), king of France, commonly called St. Louis, b. at Poissy. He succeeded his father, Louis VIII., at the age of eleven, and the days of the regency



LOUIS IX. (SAINT LOUIS)

of his mother, Blanche of Castile, were the scene of feudal reaction on the part of the nobility. Having taken over the gov. himself, he defeated an Eng. army of invasion, forcing H. y III. to acknowledge the overlordships of France in Guienne. In 1249 he embarked on his first crusade, but his army was overwhelmed and defeated in Egypt. He had already captured Damietta, but he was himself captured and held to ransom. He proceeded on his release to Acre, and remained in Palestine until 1252, returning

to France on the death of his mother. His internal reforms in France were many; he founded the Sorbonne, and estab. a definite relationship between Rome and France by the Pragmatic Sanction; he set up the Parlement de Paris, and issued also a new code of laws. In 1270 he entered on his second crusade, which was, however, owing to the influence of Charles of Naples, his brother, diverted to N. Africa, and in this same year L. d. at Tunis. He was canonised in 1297. A contemporary, Joinville, gives a good detailed account of many of his actions in *La Vie de St. Louis* (new ed. by M. Roques and L. Halphen, 1932); other lives are by J. Faure, 1865; H. Wallon, 1893; F. Perry, 1901; and M. R. Toynebee, 1930. See also E. J. Davies, *The Invasion of Egypt by Louis IX.*, 1898.

Louis X., see FRANCE, History.

Louis XI. (1123-33), king of France, the eldest son of Charles VIII., b. at Bourges. Owing to his attempts on his father's throne, he was forced into exile in Burgundy, and remained there until his accession in 1461. His attempts to increase the power of the Crown led to a revolt of his feudal vassals. His greatest opponent was Charles the Bold of Burgundy, who compelled him to help put down the revolt in the bn. of Liège; in turn he stirred up the Flemish and Swiss tns. against Charles. Charles was twice defeated, and finally killed in battle against the Swiss. L. claimed Burgundy, but failed to maintain his claim until 1482, when by treaty Burgundy and Artois were ceded to France. He succeeded in consolidating France, and, in addition to the cessions already mentioned, he annexed Provence. His chief advisers were taken from the lower classes, his virtual Prime Minister being the barber Olivier. See P. de Commynes, *Mémoires*, 1649; *Letters*, ed. by J. Vascen and E. Charavay, 1883-1909; and lives by C. Hare, 1907, and P. Champion, 1927.

Louis XII. (1462-1515), son of Charles of Orléans and successor of Charles VIII., b. at Blois. His kindness and lack of severity gained for him the title of the 'father' of his people. Much of his time was spent in campaigns in Italy, where he was successful in overrunning Milan and in helping in the conquest of Naples. In 1513, however, he was finally driven out of Italy, and in the same year suffered defeat at the hands of the emperor and Henry VIII. at the battle of the Spurs. By his marriage to Anne of Brittany he added the last remaining dependent feudal fief to the kingdom of France. See P. Lacroix, *Louis XII. et Anne de Bretagne*, 1882; A. R. de Maulde, *Histoire de Louis XII.*, 1889-93; and J. S. Bridge, *History of France* (vols. III. and IV.), 1929.

Louis XIII. (1601-43), b. at Fontainebleau, son of Henry IV., on whose assassination he succeeded to the throne of France at the age of nine. His mother, Marie de' Medici, acted as regent, and pursued a policy of alliance with the Catholic powers, which led to a revolt of the Huguenots. This was, however, speedily put down. The king, on being

declared of age, continued the Edict of Nantes, and called the last States-General before the eve of the Fr. Revolution. In 1624 Cardinal Richelieu became the virtual Prime Minister and ruler of France. By the capture of La Rochelle in 1628 he finally crushed the Huguenots, although the Edict of Nantes was not revoked. Under the guidance of the cardinal France took an active part in the Thirty Years war, supporting the Protestants against Spain and Austria. See M. Topin *Louis XIII. et Richelieu*, 1876; G. Hanotaux, *Histoire de Richelieu*, 1893-1903; R. de Beauchamp, *Louis XIII. d'après sa correspondance avec Richelieu*, 1902; K. A. Patmore, *Court of Louis XIII.*, 1909; and L. Balas, *Scènes et tableaux du règne de Louis XIII.*, 1935.

Louis XIV. (1638-1715), b. at St. Germain-en-Laye, the son of Louis XIII., whom he succeeded in 1643. His mother, Anne of Austria, became regent, but the chief power lay in the hands of her minister, Mazarin. The policy of the exclusion of the nobility from the chief posts in the gov. led to the rising known as the Fronde, which was brought to an end in 1659. In the following year L. married the Infanta Maria Theresa, and in 1661, on the death of Mazarin, L. began his long period of personal government. The keynote of the whole of his reign was despotism, and his motto, 'L'Etat, c'est moi', typifies the whole of his policy. Under the great minister, Colbert, the finances of the kingdom were reformed, trade was increased, and a strong colonial policy pursued. Under his war minister, Louvois, the armies were reformed, and under his generals, Turenne and Condé, the Fr. Army became the finest fighting machine in Europe. The war of Devolution began on the death of Philip IV. of Spain, L.'s father-in-law. In right of his wife, L. claimed part of the Netherlands. He made himself master of Flanders and the Franche-Comté. The alliance of England, Holland, and Sweden prevented his power from expanding, and in 1668 the treaty of Aix-la-Chapelle led to the surrender of the Franche-Comté. He again entered the Netherlands in 1672, his armies being led by Turenne and Condé. He overran many of the cities of Alsace, and also continued the conquest of the Netherlands. In 1678 the treaty of Nimwegen left him in possession of the Franche-Comté and of many of the fortresses of the Sp. Netherlands. By means of the law courts he succeeded in obtaining many cities on the borders of Germany, amongst them being Strasbourg and Metz. The courts were entirely under his control, and the *lettres de cachet* were a weapon of great efficacy. In 1685 L. married his mistress, Mme de Maintenon, who was entirely under the control of the Jesuits, and who, in turn, influenced L. to such an extent that he revoked the Edict of Nantes. This in reality marked the beginning of the fall of L.'s greatness. In 1688 a Fr. Army invaded the Palatinate, and left William of Orange free to invade England. The war of the League of Augsburg which

followed was terminated by the treaty of Ryswick, which was in reality merely a truce, and caused L. to give up all conquests which he had made since 1678. In 1700 Charles II. of Spain d., leaving the crown of Spain to Philip of Anjou, the second grandson of L. I., in spite of the Second Partition Treaty, accepted the will of the Sp. king. This led to the War of the Sp. Succession, Eng. participation in which being caused also by L.'s recognition of the Old Pretender as James III. The war terminated in the treaty of Utrecht in 1713, and gave Spain to L.'s grandson, but the victories of Marlborough (q.v.) had left France a ruined country.

L.'s reign is supreme in the age of Fr. literature, and was productive of such men as Corneille, Racine, Molière, and Boileau, whilst religion was represented by men of the type of Bossuet and Fénelon. See Voltaire, *Siècle de Louis Quatorze*, 1751; A. Hassall, *Life of Louis XIV.*, 1895; St. Simon, *Mémoires* (Eng. trans.), 1899; E. Lavisse (ed.), *Histoire de France* (vols. vii-viii), 1901; Lord Acton, *The Age of Louis XIV.*, 1902; Sir C. Petrie, *Louis XIV.*, 1940; and I. M. Auloy, *Louis XIV. and the Greatness of France*, 1916.

Louis XV. (1710-74), b. at Versailles, king of France, sometimes, and with little justification, called the 'Bien Aimé'; he was the great-grandson of Louis XIV.,

Austrian Succession the Fr. supported the claim of the elector of Bavaria to the throne of Austria in lieu of Maria Theresa. They were repeatedly successful on land, but their trade and navy were ruined by the Eng. The great duel in India and America between England and France may be said to begin here. The financial state of France, however, was chaotic, and all the money which could be obtained was lavished by L. on his mistresses, especially on Mme du Pompadour and later on Mme du Barry. The country was overtaxed, and was further humiliated by the practical conquest of all the Fr. possessions in India and America during the Seven Years war. The peace of Paris (1763) definitely deprived France of the nucleus of her colonial empire. On L.'s death France was bankrupt and ready for revolution; 'Après moi, la délugé.' See A. de Toqueville, *Histoire philosophique du règne de Louis XV.*, 1847; P. Gaxotte, *Louis XV. and his Times*, 1931; and A. Leroy, *Louis XV.*, 1938 (Eng. trans., 1939).

Louis XVI. (1754-93), king of France, the grandson of Louis XV., b. at Versailles. During the reign of Louis XV. a diplomatic movement, usually known as the Diplomatic Revolution, had taken place; by this Austria and France, hitherto violent enemies, became allies, and in order to strengthen the bands of the alliance, in 1770 L. married the daughter of Maria Theresa, Marie Antoinette. L. succeeded to a bankrupt kingdom (see LOUIS XV.). The state had a national debt of over 4,000,000,000 of livres, and the people paid altogether well over 50 per cent of their income in taxes. The king agreed to many minor reforms, but was prevented by the Church and the nobility from accepting greater reforms urged on by Turgot. Necker succeeded in reforming the finances of the country to a certain extent, but again a proposal to tax the classes who were excluded by privilege led to such violent opposition that Necker resigned. Finally it became apparent that the States-General, which had not met since 1614, would have to be called. The state had by this time stopped all money payments, and Necker had again attempted to put an end to the financial embarrassments. In May 1789 the States-General met, the Third Estate having been called in doubled numbers to obtain equal voting power against the alliance of Church and nobility. The Third Estate speedily took upon themselves the rectifying of grievances and formed themselves into a National Assembly. Proclaiming a new constitution they gained for themselves the title of the Constituent Assembly and the revolution had begun. The king refused to accede to their demands for *liberté, égalité, fraternité*, and retallated by dismissing Necker and calling out the troops, but to little effect. In Oct. Versailles was attacked, and L. and his family were forced to take up residence in Paris. The next two years were spent by the assembly in experimenting with constitutions, and the king and his family, in 1791, got away



LOUIS XV.

Hackitt

whose eldest son and grandson both d. in 1711. L. was just over five years of age when he succeeded, and the country was administered by the king's uncle, Orleans. The age of Orleans was noted for its vice and its profligacy. In 1725 L. married the daughter of Stanislas, the deposed king of Poland. After the death of Orleans his chief minister was Cardinal Fleury. In the War of the Polish Succession France succeeded in establishing the claims of L.'s father-in-law to the Polish throne. During the War of the

to Varennes, only to be brought back as prisoners to Paris.

In 1792 the king's hand was forced, and he was compelled to declare war against Austria. Hostility in Europe was aroused by the republican fervour of the left-wing of the assembly: in Sept. 1792 the republic was proclaimed as a reply to Prussian invasion. In Dec. 1792 the king was brought to trial for treason against the republic, was sentenced to death, and executed on Jan. 21. He was guillotined in 'La Place de la Révolution.' Marie Antoinette soon shared the same fate. See A. de Tocqueville, *L'Ancien Régime*, 1856; J. M. Thompson, *The French Revolution*, 1929; and L. Madelin, *Louis et Marie Antoinette*, 1936; also life by M. de la Faye, 1943.

Louis XVII. (1785-95), b. at Versailles, titular king of France, the second son of Louis XVI., became dauphin on the death of his elder brother in 1789. He was at first imprisoned with his mother, but was later removed to the Temple and placed under the charge of an infamous Jacobin bootmaker named Simon. Many stories are related of the revolting cruelty of his keeper, and also of his alleged escape. It seems now definitely fixed that he d. in 1795. He has been personified most notably by a Prussian named Karl Wilhelm Naundorf, whose resemblance to the Bourbons was striking. This pretender made his way to France in 1833, but was later expelled. See A. Beauchesne, *Louis XVII., sa vie, son agonie, sa mort*, 1884, and D. Jacommet (ed.), *Louis XVII., 48 documents originaux et iconographiques*, 1937.

Louis XVIII. (Stanislas Xavier) (1755-1824), b. at Versailles, king of France, the younger brother of Louis XVI. He claimed the title of king of France after the death of Louis XVII. in 1795. He continued in exile, living in Buckinghamshire in England until Napoleon's first abdication (1814), when he crossed to Calais and assumed the throne of France. L. and his family fled to Ghent during the Hundred Days, and remained there until after Waterloo. For a time he attempted a liberal form of gov., under the influence of Derazes, but Royalist extremism gained the upper hand after the murder of the duc de Berry in 1820. See M. G. Pallain (ed.), *Correspondance inédite de Talleyrand et du roi Louis XVIII. pendant le Congrès de Vienne*, 1881; J. Lucus-Dubreton, *The Restoration and the July Monarchy* (trans.), 1925; and J. François-Primo, *La Vie privée de Louis XVIII.*, 1938. He was succeeded by his brother Charles X.

Louisa Augusta Wilhelmina Amalie (1776-1810), queen of Prussia, a daughter of Karl, duke of Mecklenburg-Strelitz, b. at Hanover, in 1793 married the prince-royal of Prussia, later Frederick William III., and became the mother of Frederick William IV. and William III., afterwards emperor. She endeared herself to her people by her spirit and energy, and particularly distinguished herself during the Napoleonic campaign by her self-denying efforts to obtain concessions at

Tilsit from Napoleon. The Prussian order of Louise was instituted in her honour, and also the Louise foundation for the education of girls. A statue of Queen Louisa was erected in the Tiergarten at Berlin in 1880. See E. Hudson, *Life and Times of Louisa, Queen of Prussia*, 1874; E. Engel, *Königin Luise*, 1876; and lives by Mary Moffat, 1906, and G. Aretz, 1927; also novel by W. von Molo, 1924.

Louis Bonaparte, king of Holland, see BONAPARTE.

Louisburg, tn. in Cape Breton Is., Canada, off the Atlantic coast, commanding the entrance to the gulf of St. Lawrence, 27 m. S.E. of Sydney. It is now little more than a fishing vil., but under the Fr. had a large export trade in cod, and was the strongest fortress in N. America. Taken in 1745 by the troops of Massachusetts under Pepperell and a Brit. squadron under Warren. L. was restored to France in 1748 by the treaty of Aix-la-Chapelle. It was again taken by Amherst in 1758. It possesses a very fine harbour, employed for the winter export of coal. Pop. 1100. See J. G. Bourinot, *Memorials of the Island of Cape Breton*, 1892.

Louis de la Trinité, Father, see D'ARGENT-LIET, THIERRY.

Louis-d'Or, Fr. gold coin first issued by Louis XIII. in 1640, and discontinued in 1795. Its value varied at different times from 10 to 20 francs.

Louise Caroline Alberta, Duchess of Argyll, Princess (1848-1939), b. at Windsor, March 18, fourth daughter of Queen Victoria, and named after her godmother, Louise, queen of the Belgians. She married Lord Lorne, heir to the duke of Argyll, on March 21, 1871. Her sympathies were with all good works; and hospitals, nursing societies, and all agencies of that nature had her patronage. The hospital for limbless sailors and soldiers at Erskine, on the Clyde, bears her name. She was in Canada during part of the term of the marquess of Lorne's governorship; but the over-strict etiquette that hedged the governor-general's court provoked critical and outspoken comment in Canada, the more so as the marquess was a man of simple friendliness and genial ways and the princess's manner was charming and entirely without stiffness. The winter, however, proved too severe for her and she returned to Britain in 1880. As a sculptor she is best known by her statue of Queen Victoria in the gardens opposite Kensington Palace. By far the handsomest of the queen's daughters, the years passed lightly over her, though her health, by no means robust, had suffered in Canada.

Louisiane Archipelago, group of is. at the S.E. extremity of Brit. New Guinea, St. Aignan and South-east being the largest. They are all of a mountainous nature and covered with vegetation, the inhab. being very wild, and partaking of both Malayan and Papuan characteristics. The is. were discovered in 1666, and taken by the Brit. in 1888. Alluvial gold has been found.

Louisiana, known as the Pelican state,

one of the S. central states of U.S.A., bordering the gulf of Mexico, bounded on the N. by Arkansas and Mississippi, on the E. by Mississippi and gulf of Mexico, gulf of Mexico on the S., and Texas on the W., covering an area of 48,523 sq. m., including 3346 sq. m. of inland water. It was admitted to the Amer. Union in 1812. The surface of the state, generally, is not very much above sea level, but there are extensive tracts of undulating ground in the N.W. About a third of the area of the state is occupied by the Mississippi delta. In many places, notably at New Orleans, the riv. is at a considerably higher level than the surrounding land (see MISSISSIPPI). Marsh lands form a large portion of the great delta of the Mississippi and extend W. all along the coast. These marsh lands are the home of muskrat, opossum, skunk, fox, and other fur-bearing animals. Timber is also produced on these marshes, L. being U.S.A.'s third lumber producer. The state has a large number of rivs., creeks, bayous, and lakes, giving it over 4000 m. of navigable waterways. The prin. riv., after the Mississippi, is its great trib., the Red R.; the Sabine forms its W. boundary, the Pearl bounds it on the S.E. The geological formations belong to the Tertiary and Quaternary periods. The climate is semi-tropical and unhealthily in the lowlands, and the soil is exceedingly fertile, except in the extreme N. The chief manufacturing industries of the state are those of petroleum, lumber, rice, cottonseed, sugar, and molasses. Sugar is the most important agric. product; others are rice, cotton, corn, fruit, especially strawberries, and tobacco. There are valuable fisheries. The chief mineral products are rock-salt (the state has three of the largest salt-mines in the world), sulphur, clay beds, petroleum, and natural gas. The cap. is Baton Rouge (pop. 31,700), and other important tns. are New Orleans (494,500), the largest city and one of the chief Amer. seaports; Shreveport (98,100); and Monroe (28,300). There is a state univ. at Baton Rouge and a univ. for coloured students at New Orleans. L. sends two senators and eight representatives to Congress. The four years' (1931-35) governorship of Huey P. Long (q.v.) was a landmark in L. politics. After his assassination (1935) there followed a reactionary period of twelve years in which L. political life reverted to something more normal—the conflict between New Orleans, predominantly Catholic, and the poor and largely Protestant countryside; and the parsimony which replaced Huey Long's enormous expenditure on roads, hospitals, and education. But in the 1948 election, by a huge majority, L. chose Earl Long (for the second time since 1939), brother of Huey, as governor. His programme, if less flamboyantly presented than his brother's doctrine of 'share the wealth,' rests on the same assumptions. In 1949, however, there was much uneasiness over the vast taxation scheme needed to raise the funds for the social welfare projects to which the governor was pledged, but it

appeared that he had complete control over an obedient legislature. Pop. (1940) 2,368,800, of whom 700,000 are coloured.

The old Fr. prov. of L., named by La Salle in honour of Louis XIV., stretched from Manitoba and the Great Lakes to the gulf of Mexico, and from the Brit. colonies in the E., to the Sp. colonies in the W. When France lost Canada L. passed to England and Spain, the Mississippi being the boundary. In 1800 it passed again into Fr. possession, to be sold to the U.S.A. three years later for £3,000,000. See also LOUISIANA PURCHASE; U.S.A.; History. See Johnson, *Highways and Byways of the Mississippi Valley*, 1906; L. Saxon, *Old Louisiana*, 1929; and Federal Writers' Project, *Louisiana: a Guide to the Pelican State*, 1941.

Louis, Joe (real name Joseph Louis Barrow) (b. 1914), Amer. Negro boxer, b. near Lafayette, Alabama, son of a sharecropper and one of eight children. When the father d. from the strain of trying to keep his family on the vegetables of his cotton-patch, the mother married a widower with five children and the combined families moved to Detroit, where the stepfather worked in a car factory and L. went to a trade school and worked in the evenings delivering ice from an ice wagon. He took up boxing for a living at the age of eighteen. Last amateur fight was against Joe Bauer, in Detroit, June 12, 1934. As a professional his first fights were against Hans Birke and Lee Ramage, whom he beat. After beating Ramage for the second time the papers nicknamed him 'Brown Bomber.' A New York promoter then fixed up a fight with ex-heavyweight champion Primo Carnera, whom he defeated in the seventh round, and for which he received \$60,000 (June 1935). After the Carnera fight he knocked out (1935) Max Baer, who had just lost the heavyweight title to Jimmy Braddock. In June 1936 he was defeated by Max Schmeling in the twelfth round—the worst night he ever had. In Aug. he knocked out Jack Sharkey in the third round, and in Sept. Al Ettore in the fifth round. On June 22, 1937, he knocked out Jimmy Braddock (eleventh round), thereby winning the world's heavyweight championship. Then came the return match with Schmeling whom he knocked out in the opening round. He held the title until 1948, retiring undefeated from the ring in the same year. He served in the U.S. Army 1942-45.

Louis Philippe (1773-1850), king of the Fr., b. in Paris. The eldest son of the duke of Orleans, together with whom, at the time of the Fr. revolution, he gave up his title and assumed the name of Egalité. During the early Revolutionary campaigns he fought for the republic, but finally fell under suspicion and was threatened with arrest. He fled to Austria, and did not again enter France until the Restoration. He was a teacher in Switzerland, visited the U.S.A., and finally, about the beginning of the nineteenth century, settled at Twickenham. He married, in 1809, the daughter of Ferdinand, king of the Two Sicilies, and returned to France in 1815.

He became exceedingly popular in Paris, and after the revolution of 1830 was elected king, having first taken the title of lieutenant-governor. The power of the king was great, but nevertheless the reforming party gradually increased, and the Bonapartists protested that the national honour was being degraded by a pacific foreign policy. Twice Louis Napoleon entered France as a pretender, but with no success. Attempts were finally made to stamp out the reforming party, which precipitated the revolution of 1848. The Paris mob rose, and, aided by the complicity of the army and the police, were successful in compelling the king to abdicate, although he for his part promised redress, and dismissed his Prime Minister, Calrot. He fled to England, where two years later he d. at Claremont,



LOUIS PHILIPPE

Surrex. His *Discours, allocutions, réponses* were pub. in 17 vols (1833-17), and *Mon Journal événement de 1815* in 1845. See lives by P. de la Gorce, 1931, and J. Lucas-Dubreton, 1939.

Louisville, city in Jefferson co., Kentucky, U.S.A., on the l. b. of the Ohio, 130 m. S.W. of Cincinnati. It is connected with New Albany and Jeffersonville by three fine bridges, and is an important riv. port. It is one of the greatest manufacturing cities of the S., and as a leaf-tobacco market leads the world. It has manufs. of plumbing supplies, meat packing, flour mills, grain products, and lumber. Its chief buildings are the custom-house, court-house, city hall, and univ. Pop. 319,100.

Loulé, fortified tn. of Algarve, Portugal, 6 m. N. of Faro. It has copper and silver mines, and the prin. industries are basket-making, leather goods, and porcelain. Pop. 23,700.

Louping ill, or **Sheep Stagers**, common disease of sheep in Scotland and Northumberland, appearing in spring. The symptoms are a staggering jerky gait, staring eyes, followed by convulsions, paralysis, and death. The application of

half a ton of crushed salt per acre to pastures has greatly reduced the losses by the disease.

Lourdes, tn. in dept. of Hautes-Pyrénées, S.W. France, at the foot of the Pyrenees, on the r. b. of the Gave de Pau, 80 m. S.E. of Bayonne. It is divided into an old and a new tn., united by a bridge, leading to the church of the Rosary and the Grotto, with its spring of healing water with which the present fame of L. is associated. Here in 1858 the Blessed Virgin is believed to have appeared to a peasant girl, Bernadette Soubirou, prophesying the future fame of L. The celebrated spring is credited with miraculous powers of healing, a permanent medical bureau examining alleged cures, comparatively few of which are certified as completely miraculous. Nevertheless many remarkable cases have occurred where a cure has been declared inexplicable on any natural reasoning, and in 1889 a church was built for the accommodation of pilgrims, about 500,000 of whom visit the place every year. The chief of the pilgrimages, known as the national pilgrimage, takes place in Aug. L. has marble and slate quarries. Pop. 8790. See D. Barbé, *Lourdes Yesterday, To-day, To-morrow*, 1893 (Eng. trans. by Alice Meynell); T. Oxenham, *The Wonder of Lourdes*, 1924; and novels by E. Zola, 1894, and F. Werfel, 1941.

Lourenço, or **Lorenzo Marques**: 1. Dist. in the S. of Portuguese E. Africa. It is traversed by the Rs. Lunde and Limpopo, and is divided into five sub dists., the gold-bearing ter. of Manica being one. 2. Cap. of the L. dist. Portuguese E. Africa, in the N.W. of Delagoa Bay. It is the terminus of the Delagoa Bay railway penetrating to Pretoria. The total length of railroad from Lobito to L. is 329½ m. L. was founded as a factory by the Portuguese in 1541. As late as 1875 what little there was of the tn. was built on a narrow spit of sand 1 m. long and ¼ m. wide and surrounded by marshes. It was the construction of the line to the Transvaal that made the harbour known and did so much to bring prosperity to L. Besides its good harbour the tn. has many fine buildings, and a goldfield was proclaimed in the dist. in 1890. It is Johannesburg's nearest outlet to the sea and has many visitors. Its pavements are laid in elaborate mosaic patterns; the Praça Sete de Março ('Band Square'), the market square, has a bandstand and casinos, there is bathing at the Polana beach near the Polana Hotel which cost nearly £500,000. In the city close to the Avenida Aguilar are the Vazco da Gama Gardens and on the Polana side of the gardens is the National Museum, the exhibits of which exemplify the hist. and wild life of Portuguese E. Africa. About 25 m. out of the city is Marracuene, a riv. resort, where hippopotami may be seen at play, and 25 m. further inland is the upland resort of Namacha, a place of medicinal springs called 'the sanatorium of L.'; it is situated at the junction of the Portuguese E. African, Swaziland, and Transvaal borders. Pop. 38,000.

Lousewort, see PFDICULARIS.

Louth: 1. Tn in the Lindsey div. of Lincolnshire, England, on the R. Lud, 16 m. S.E. of Grimsby. There are fine buildings and the ruins of a Cistercian abbey at L. Park. Agric. implements are manufactured, and there are also iron foundries, breweries, brick-fields, etc. It communicates with the Humber by means of the L. Canal (1763). Pop. 17,100. 2. maritime co. of Eire in the prov. of Leinster, bounded E. by the Irish Sea. The surface generally is low and undulating, with a high mt. range in the N.E., bordering Carlingford Lough. On the

Liège the prin. line of the Belgian defence was centred at L. and after L. fell the Belgians were driven back on Antwerp and Malines. The greater part of the city of L., including the church of St. Peter, the law court, the theatre, the Academy for Fine Arts and the anc. halls, with the famous univ. library, was then raved by the Gers on the pretext that the civilian pop. had joined in an attack on the Ger. occupying troops. This vandalism, however, reacted severely on Ger. prestige, and by the treaty of Versailles Germany undertook to deliver MSS. and prints equivalent in value to those destroyed at



D. McLeish

THE (10170) AT LOUTH

coast are the watering places of Carlingford and Greencore with Dundalk forming the bay of that name. The chief towns are the Fane, Lagan, Glide and L., with the Boyne forming part of the S. boundary. Agriculture is the chief occupation, but there are also linen factories and deep-sea and salmon fisheries. It is rich in anc. buildings and remains. The tn. of L. from which it takes its name has now passed into decay, and contains some fine ruins. Area 317 sq. m. Pop. 66,100.

Louvain (Flem. Leuven; Ger. Löwen), city in the prov. of Brabant, Belgium, 16 m. E. by N. of Brussels, on the Dyle. Among its numerous historical buildings are the tn. hall (1448-99), one of the finest examples of the Gothic style in N.W. Europe. The univ. of L. was founded in 1425 and was designated as the Cathol. Univ. in 1835. The beginning of the First World War was the most tragical episode in L.'s hist. It was sacked by the Gers. on Aug. 25, 1914. After the fall of

L. in 1910 the library, rebuilt with the help of the Amer. people in 1928, and containing over 900,000 vols., was again destroyed by the Gers. L. suffered much from bombing before its liberation by a Brit. armoured column in Sept. 1945. It is an important market place, and road and railway junction. There is agriculture and floriculture, and breweries, iron foundries, and manufs. of machinery, radio sets, chemicals, and tinned vegetables. Pop. 36,000. See L. van der Ksaen, *L'Université de Louvain*, 1927, and H. van der Linden, *Geschiedenis van Leuven*, 1936.

L'Ouverture, Pierre Dominique Toussaint, see TOUSSAINT.

Louvière, L., see LA LOUVIÈRE.

Louviers, tn. in dept. of Eure, France, 17 m. S. of Rouen, one of the prin. centres of Fr. woollen mfgs. Pop. 10,300.

Louvois, François Michel Le Tellier, Marquis de (1641-91), Fr. statesman and war minister under Louis XIV., b. in Paris. Turenne perceived his talents in

the war of Devolution, and after the peace of Aix-la-Chapelle he was set to reorganise the Fr. Army. He founded the military orders of merit, the *Hôtel des Invalides*, and the Fr. standing army. The efficiency of his instrument was demonstrated in the war of 1672. Until 1690 L. was a chief statesman of France. See C. Rousset, *Histoire de Louvois*, 1872; and L. André, *Michel Le Tellier et Louvois*, 1942.

Louvre, The, greatest of the modern palaces of Paris, forming a square of 576 ft. by 538 ft., was connected with the palace of the Tuilleries by a great picture gallery overlooking the Seine and 1156 ft. long. Between the two palaces lay the *Place du Carrousel*, and Napoleon III. further connected the two palaces on the N. side, making them into one vast palace. The L. is erected on the site of an old thirteenth-century chateau; the first part of the modern structure, the S.W. wing, was built, after the designs of Pierre Lescaut, in 1511, while the main portion of the square was built by Louis XIV. after the design of Claude Perrault. After the building of the Tuilleries the L. proper became a series of great galleries filled with pictures, sculpture, Egyptian, Greek, and Roman antiquities. The fire originated by the Communards in 1871, which destroyed the Tuilleries, only burnt the corner of the L. which contained the library.

The 'Grande Galerie' of the L., re-decorated and rehung, was officially opened again on Oct. 6, 1947. It had been closed and empty since the outbreak of war. The 'Grande Galerie' contains the Renaissance painters and their successors down to the eighteenth-century Venetians: Leonardo da Vinci, Raphael, Andrea del Sarto, Titian, Tintoretto, Mantegna, Canaletto, and Guardi. Near the end of the gallery are the paintings of the Sp. school: Velasquez, Murillo, and Goya. As before the war the centre of the gallery is reserved for the special masterpieces, 'Joan of Aragon' and 'Baltasar Castiglione' by Raphael, 'Francis I.' by Titian and Leonardo's 'Mona Lisa.' Cimabue's 'Virgin with the Angels' first meets the visitor at the top of the stairs. In the 'Seven Metres Hall' are the L. primitives and the artists of the early Renaissance, including Botticelli and Ghirlandajo. See also *Paint.*

Lovat, Simon Fraser, twelfth Lord (c. 1667-1717), Scottish Jacobite. Though professing loyalty to the Stuarts, one of his first acts on leaving college was to raise 300 men from his clan to form part of a regiment in the service of William and Mary. In 1690 he was declared guilty of treason and fled to France. In 1702 he was at the court of St. Germain, and one of his first steps towards gaining influence in France was to announce his conversion to the Catholic faith. In 1713, at the request of his clan, he returned home, and though arrested in London (1714) he was liberated, and, by siding with the gov., obtained a full pardon. In the rebellion of 1745 he made false profession of fidelity to the gov., and after the battle of Culloden was forced to retreat to the High-

lands. He was finally arrested on an is. in Loch Morar, and was tried and executed in his eightieth year, on Tower Hill, March 1717. One of his greatest private outrages was the rape and forced marriage of the widow of the tenth Lord L., with the view of securing his own succession to the estates. See *Memoirs of Lord Lovat*, 1716 and 1767; J. H. Burton, *Life of Simon, Lord Lovat*, 1847; Katherine Thomson, *Memoirs of the Jacobites*, 1845-46; and A. Mackenzie, *History of the Frasers of Lovat*, 1896.

Lovat, Simon Joseph Fraser (1871-1933), sixteenth Baron, succeeded to the barony in 1887. He served in S. Africa in the early stages of the Boer war, and raised a corps, designated 'L.'s Scouts,' with himself in command. On returning from Africa he raised two yeomanry regiments, which formed part of the Highland Mounted Brigade. L.'s Scouts were incorporated in the Scottish Horse. L. served in France and Gallipoli during the First World War.

Love. In its most common use the term denotes a concentration of tender feeling upon one particular person, most commonly the affection existing between parent and child, and that affection between two persons of opposite sex which forms the normal basis of marriage. It manifests itself in a desire for the welfare of the beloved object, in a longing for his presence and delight in his approval, and sorrow at parting. The term is less often used for the animal instinct between the sexes and its gratification, with its analogues in the lower animal world. No word has so little preciseness of meaning and so great an elasticity of definition. Leibniz's definition that to L. is 'to be carried away to take pleasure in the well-being or happiness of the loved being,' restricts the emotion to protecting L. Socrates distinguishes between heavenly and vulgar L., and utterly condemns the latter, and Plato follows in his steps. Platonic L. is the affection between two persons of opposite sex that is free from all sexual desire, that is a striving after the infinite and a lowly adoration of perfect beauty. Aristotle, searching after the psychological basis of the emotions, found in L. not a metaphysical principle, an aspiration after perfect beauty, but a natural physical bond between the sexes designed for the procreation of children. The Christian ideal makes L. to man, or charity, the unvarying method of manifesting L. to God. In the supreme synthesis of the beloved disciple (God is L. (1. John iv. 8). See J. Michelet, *L'Affranchissement moral par le véritable amour*, 1858; A. Bain, *The Emotions and the Will*, 1859; C. Darwin, *Descent of Man*, 1871; H. Drummond, *The Greatest Thing in the World*, 1890; H. Krafft-Ebing, *Psychopathia Sexualis* (Eng. trans., 1899); O. Pfister, *Love in Children*, 1924; A. Nyrgen, *Agape and Eros: Christian Idea of Love*, 1932; I. D. Suttie, *Origin of Love and Hate*, 1935; and E. Brunner, *Eros und Liebe*, 1937.

Love Apple, see *APPLE*, *LOVE*.

Love Bird, popular name of various

small parrots of the genus *Agapornis* (separated from *Psittacula* by Jardine and others) of the family *Psittacidae*. They are so named from the affection the male displays towards the female whether caged or wild. The African short-tailed rosy-faced L. B., which is about 6½ in. long, is a favourite cage-bird and among the hardiest of the genus. Other varieties are the Melanesian pygmy parrots and *Micropsittacus undulatus*, a long-tailed grass-parrot once much used for fortune-telling, and known as the Australian budgerigar (*g.v.*).

Lovedale, educational institution and mission station in Cape Prov., 30 m. N.W. of King William's Town. Founded in 1841 by Scottish missionaries for the training of teachers for native schools.

Love-in-a-Mist, popular name of a genus (*Nigella*) of flowering plants of the natural order Ranunculaceae, bearing blue or white blossoms surrounded by feathery leafy bracts. The most popular species are *N. damascena*, bearing dark blue flowers, *N. d. Miss Jekyll* (pale blue or white flowers), and *N. hispanica* (dark blue).

Love-in-Idleness, see **PANSY**.

Lovelace, Richard (1618-58), Eng. lyrical poet, b. at Woolw. in Kent. He spent his fortune in support of the royal cause, and though he could have shone at court, preferred warfare. In 1645 he took up arms on the king's behalf, fought for France against Spain, and on returning to England in 1648 was imprisoned till the king's death, thus obtaining leisure for verse-making. During his imprisonment he wrote the song by which he is best remembered, *To Althea in Prison*, and collected and revised for the press a vol. of occasional poems. In 1649 they were pub. under the title of *Lucasta*. He also wrote, when quite a young man, a comedy and a tragedy, entitled respectively *The Scholar* and *The Soldier*. The last ten years of his life were passed in obscurity. A vol. of his *Posthumous Poems* was pub. in 1659 by his brother, and the best complete modern text appears in Everyman's Library in *Minor Poets of the XVIIth Century*. See C. H. Hartmann, *The Cavalier Spirit, and its Influence on the Life and Work of Richard Lovelace*, 1925.

Love-Lies-Bleeding, see **AMARANT**.

Lover, Samuel (1797-1868), Irish novelist and poet, achieved fame in 1826 with the well-known ballad of *Rory O'More*, which was, and is still, very popular. His best novel is the farcical *Handy Andy* (1842) which achieved a great success, and this almost alone of his works of fiction is still read, but now principally by boys. *Rory O'More*, *A National Romance* (1837), and *Treasure Trove* (1844) being almost entirely forgotten. He wrote many songs and sev. plays, and one of the worst vols. of parodies ever issued, *Rival Rhymes in Honour of Burns* (1859). See lives by W. B. Bernard, 1874, and A. J. Synnington, 1880.

Lovosice (Ger. Lobositz), tn. in Bohemia, Czechoslovakia, on the Elbe, 40 m. N.W. of Prague. It is the site of the defeat of the Austrians by Frederick the

Great in 1756. It has an important fruit trade. Pop. 5000.

Low, Archibald Montgomery (b. 1888), Brit. physicist, educated at St. Paul's School, Skerry's College, Glasgow; Central Technical College, S. Kensington; and the Imperial College of Science and Technology, London. He was honorary assistant prof. of physics at the R.A. college, 1919-1922. His numerous inventions include system of radio signalling, a television system (1914), electrical rocket control (1917), a coal fuel engine, radio torpedo control gear, vibrometer and audiometer. President of the British Institute of Engineering Technology and of the Institute of Patentees, his numerous scientific pubs. include works on inventions and experimentation.

Low, David (b. 1891), Brit. caricaturist, b. at Dunedin, New Zealand; third son of David Brown L. Educated at the Boys' High School, Christchurch, New Zealand, his first drawing was pub. in the *Christchurch Spectator*, 1902. He worked for various New Zealand papers till 1911, when he joined the staff of *Bulletin*, Sydney, New S. Wales. He came to London, 1919, at the invitation of the *Star*, on the suggestion, it is said, of the late Arnold Bennett, and became as celebrated for his portraits of Lloyd George as was Sir F. C. Gould for his pictures of Joseph Chamberlain. He left the *Star* for the *Evening Standard* in 1927, in which newspaper his cartoons have since appeared, as well as being syndicated in the *Manchester Guardian* and other prov. papers. L.'s work is remarkably free from the conventional devices of the professional cartoonist. Thus, in the 300 cartoons included in his *Years of Wrath* there are, no doubt, sev. personified statues of Liberty, and, as the war progressed an increasing number of skeletons, but his pictorial invention is so great that he avoids the smaller suggestion of staleness. In the world of L. 'creation' his most noted stock character Col. Blimp appears far oftener than does John Bull; and furthermore L. is no jingo, his appeals to national sentiment being founded unerringly on an understanding of the popular mind. As an artist he is superior to most cartoonists, with an unrivalled gift for lifting off a comic and unmistakable likeness, and the prin. political figures of 1932-45, from Churchill, Baldwin, and Chamberlain to Mussolini, Hitler, and Goering, are portrayed with rare genius. He has pub. collections of his cartoons as *The New Rake's Progress* (1931); *Political Parade* (1936); *Cartoon History of Our Times* (1939); *Bristol Cartoonists* (1942); and *Years of Wrath* (1949).

Low, Sir Sidney James Mark (1857-1932), Eng. historical writer and journalist; b. at Blackheath and educated at King's College School and Balliol College, Oxford. Editor, *St James's Gazette*, 1888-97, he was elected to Bar, Inner Temple, 1892. Joint editor, *Dictionary of English History* (1896, revised 1929), he was formerly lecturer on constitutional hist. at King's College, London. Pubs. include *The Governance of England* (1904,

revised 1914); *Political History of the Reign of Queen Victoria* (1907); *De Quincey* (1911); *Egypt in Transition* (1914); *The British Constitution* (1928); and *Indian States and Princes* (1929).

Low Church, movement developed, in the eighteenth-century evangelical revival, within the Anglican Church and occasioned by John Wesley's contemporary Methodist movement. See also EVANGELICAL.

Low Countries, region of N. Europe, comprising Belgium and the Netherlands.

Lowe, Sir Hudson (1769-1844), Brit. general, b. at Galway. He entered the army in 1787, and in 1793, after the outbreak of the war with France, saw active service in Corsica, Gibraltar, Minorca, and Egypt. In 1812 he returned to England, and three years later was appointed custodian of Napoleon and governor of St. Helena, a post which he retained till Napoleon's death in 1821. From 1825 to 1830 he commanded the forces in Ceylon. See W. Forsyth, *History of the Captivity of Napoleon at St. Helena*, 1853; Lord Rosebery, *Napoleon, the Last Phase*, 1900; R. C. Seston, *Napoleon's Captivity in Relation to Sir Hudson Lowe*, 1903; and Dornier Creston, *In Search of Two Characters*, 1945.

Lowe, Robert, see SHERBROOKE, VISCOUNT.

Lowell, Abbott Lawrence (1857-1943), Amer. historian, b. in Boston. From 1880 to 1897 he practised as a barrister. In 1896 his *Government and Parties in Continental Europe* attracted wide notice. In 1897 he was appointed lecturer, and in 1900 prof. of the science of gov., at Harvard; in 1909 he became president. His influence was strongly felt in the educational world of America, and more modern methods of education were pursued at Harvard. Other pub. include *The Government of England* (1908); *Public Opinion and Popular Government* (1913); *Public Opinion in War and Peace* (1923); *Conflicts of Principle* (1932); *At War with Academic Traditions* (1934); and *What a College President has Learned* (1938).

Lowell, Amy (1874-1925), Amer. authoress, b. at Brookline, Massachusetts. Daughter of a well-to-do New England family, she studied in private schools and then travelled abroad. An intense student of Fr. poetry, after 1902 she devoted herself almost continuously to the writing of verse. She was the real leader of the Imagist school of poetry, and was one of those who fought in America the battle for free verse. Her best book of poetry is probably *Sword Blades and Poppy Seeds*, which appeared in 1914. She also wrote an illuminating series of essays on some of the Fr. poets, illustrated by her own versions of their verse, a book on the life and work of John Keats, and *Tendencies in Modern American Poetry* (1917). *Selected Poems*, ed. J. L. Lowes, was pub. in 1923.

Lowell, James Russell (1819-91), Amer. poet, essayist, and diplomat, b. at Cambridge, Massachusetts, son of the Rev. Charles L. He was admitted to the Bar, but took little interest in his profession,

and frequently contributed poems and prose articles to various magazines. He was attracted to the steady pursuit of literature largely through the influence of Maria White, a poetess of delicate power, to whom he became betrothed in 1840. The outcome of this was a vol. of poems entitled *A Year's Life*. Three years later he pub. a collection of his poems and *Conversations on some of the Old Poets*. He married in 1845, and went to Philadelphia for a time, where he became editor of the *Pennsylvania Freeman*, a fortnightly jour. devoted to the anti-slavery cause. In 1848 he pub. a further ed. of his poems with some new ones added, including 'To the Dandelion,' 'The Changeling,' 'A Fable for Critics,' 'The Vision of Sir Launfal,' a romantic story suggested by the Arthurian legends and one of his best known poems, and 'The Biglow Papers,' a reprint of dialect poems furnished to the newspapers of the day, satires of an effective nature, which attracted a great deal of attention.

In 1851 L. sailed for Europe, with his wife, whose health was failing, and spent a year, chiefly in Italy, in study and travel. Mrs. L. d. in 1853. Two years later L. became prof. of modern languages and literature at Harvard, and spent a couple of years in Europe to prepare himself more fully, being appointed to the chair at Harvard in 1857. In this year he married Miss Frances Dunlap. From this time till 1862 he was editor of the *Atlantic Monthly*. He was Amer. minister in London from 1880 to 1885.

His essays are marked by great literary refinement. *Presidential Travels*, *My Study Windows*, *Among My Books*, etc., all have descriptive and critical articles of permanent value and charm. *Latest Literary Essays* appeared in 1862. See lives by H. E. Soudier, 1901; F. Greenwood, 1905; and L. S. Livingston (with bibliography), 1914. See also W. H. Hudson, *Lowell and his Poetry*, 1912; J. J. Reilly, *Lowell as a Critic*, 1915; and *New Letters*, ed. by M. A. de W. Howe, 1934.

Lowell, city of Massachusetts, U.S.A., on the Merrimack R., 26 m. N.N.W. of Boston. The riv. falls afford great hydraulic power. There are a number of cotton and woollen factories and manufs. of leather, paper, and iron goods. It has large machine shops, munition factories, and carpet factories. The chief institutions are a public library, textile school, state normal school, and Roger Hall school. Pop. 101,300.

Lowen, see LOUVAIN.

Löwenheid, see LÖWENHOLD.

Lowensjærn, Johann Kunkel von, see KUNKEL.

Lower Austria, prov. of Austria, lying in the W. of the country. Area 7100 sq. m. Pop. 1,253,600.

Lower Horton, see GRAND PRÉ.

Lower Hutt, fifth largest city in New Zealand. It is situated in Hutt valley, 9 m. N.E. of the cap. city of Wellington in N. Is. Pop. 42,000.

Lower Merion, tw. in Montgomery co., Pennsylvania, U.S.A., close to Philadelphia. Pop. 39,600.

Lower Saxony, see **SAXONY, LOWER**.

Lowestoft, seaport, holiday resort, and municipal bor. of Suffolk, England, 118 m. N.W. of London. It is situated at the mouth of the R. Waveney, which here debouches into Oulton Broad, and the salt lake and inner harbour of Lake Lothing. A lock at Oulton Broad prevents the salt water of the sea from contaminating the fresh water of the broad, which is the southernmost of the Norfolk broad system of inland waters. The name *l.* appears in Domesday Book as *Lothwistloft*, but the derivation of the name has occasioned much speculation, especially as the alternatives *Leyloft*, *Leatloft*, and *Lowistloft* are found; but it is generally assumed that the name derives from *loth*, a slow-moving riv., and *loft*, a cluster of houses. Some, however, infer a connection with Dan. *Lothbrog* or *Lodbrog*, a legendary Dane who was said to have been driven ashore in E. Anglia and subsequently put to death by Edmund, king of E. Anglia, in retaliation for which outrage the Danes invaded the country, slew Edmund, and settled in 'Lothingland.' The older part of *l.* is built on a hill overlooking the sea, the more modern part being further S., where are to be found fine esplanades, two piers, and hotels. The *tn.* has some good modern schools, a large general hospital, and many industrial undertakings connected with shipbuilding, engineering, railway maintenance, food-canning, and electrical work. In the First World War the *tn.* was bombarded by Ger. warships, April 25, 1916. It suffered most severely during the Second World War, immense damage to shopping and housing areas, being occasioned by the 'hit-and-run' raids of the earlier years of the war. As a large naval base and headquarters of the mine-sweeping service *l.* was almost entirely controlled by service personnel during the Second World War. As a fishing port *l.* is among the first three or four in the country, and is especially noted for sole, cod, turbot, and plaice, and, in the autumn season, for herring. As a holiday resort *l.* is famous for its bracing air, which is particularly suitable for convalescents. The estimated pop. in 1918 was 13,666.

Loweswater, one of the Eng. lakes, 1 m. long, $\frac{1}{2}$ m. broad, 429 ft. above sea level, and 60 ft. deep, with trout, pike, and perch. The vil. of the same name is in the Park Beck, which drains the lake into Grummock Water. St. Riman's (Ninian's) Well is in Fang's Brow. The lake is owned by the National Trust.

Lowicz, *tn.* in Poland, 48 m. W.S.W. of Warsaw. Pop. (1939) 15,000.

Lowland, general term in physical geography for any broad expanse of land with a low level not rising more than 600 to 1000 ft. above the sea. The term is applied to a region of depression in the interior of a mountainous region, or in fact to any region that presents a contrast to a highland, such as the *ls.* of Scotland. The area of *ls.* is about 15,600,000 sq. m., or nearly three-tenths of the total land surface, and they prob-

ably support at least six-tenths of the inhab. of the world. They present every variety of vegetation, and where climate and drainage permit are easy to exploit and traverse. There is 55 per cent of *l.* in Europe, 36 per cent in Australia, and only about 15 per cent in Africa, mainly in the N. and W. of the Sahara.

Low Latin, properly the Lat. of the Middle Ages, but more often used in a general sense for the Lat. spoken and written after the fall of the Rom. Empire as well. Deterioration in the form of the language had begun even in Cicero's time, but it rapidly grew from bad to worse until the different divs. of the empire formed distinct varieties, finally developing into the modern Romance tongues.

Lowndes, Mrs. Marie Adelaide Belloc, see **BELLOC LOWNDSES**.

Lowndes, William Thomas (c. 1798-1843), Eng. bibliographer, to whom we owe *The Bibliographer's Manual of English Literature*, the first systematic work of the kind (2nd ed. 1857-64), and *The British Librarian* (1839), designed to supplement his early manual, but uncompleted.

Low Sunday, first Sunday after Easter, so called because it ends the octave of the Easter festival, some parts of the solemnity of which in great part were repeated on this day, thus celebrating it as a festival itself, though of a lesser order than that of Easter-tide. Probably 'Low' is a corruption of 'Laudes,' the first words of the sequence of the day being 'Laudes Salvatori,' thus naturally 'Laudes Sunday' corrupted into 'L.S.'

Low Temperature Carbonisation, see **CARBONISATION (Low Temp.)**.

Lowth, Robert (1710-87), Eng. divine and orientalist, *b.* at Winchester. In 1741 he became prof. of poetry at Oxford and in 1750 was appointed to the archdeaconry of Winchester. He pub. his *Life of William Wycham* in 1758 and *A Short Introduction to English Grammar* in 1762. He was consecrated bishop of St. Davids in 1766, soon afterwards being transferred to Oxford, and in 1777 becoming bishop of London. *l.* was one of the first to treat the Bible poetry as literature, and in 1778 wrote *Isaiah*, a new Translation, with a Preliminary Dissertation, and Notes, Critical, Philological, and Explanatory. See *Life and Writings of Bishop Lowth* (1787) and an ed. of his *Popular Works* (1843).

Lowther, James William, see **ULLSWATER, VISCOUNT**.

Loxa (Spain), see **LOJA**.

Loxia, see **CROSS-BILL**.

Loyalists, United Empire, name applied to those who remained loyal to the Brit. Gov. at the time of the revolutionary war in America. They migrated to Canada after the U.S.A. had secured independence, and formed the greater part of the pop. of Ontario and New Brunswick, which they founded. See C. Van Tyne, *The Loyalists in the American Revolution*, 1902.

Loyal Regiment (North Lancashire), The, formerly 47th and 81st Regiments, linked in 1881 to form the present

regiment. The 47th was raised in 1740, and its first service was in Scotland in the 1745 rebellion. It then took part in Wolfe's campaign against Quebec and later served in America under Gen Burgoyne. In 1783 it received the title 'The Lancashire Regiment'. In 1813 it joined Wellington's army in the Peninsula, later serving in the Burmese war (1824-26) and the Crimea. The 81st was raised in 1793 as the Royal Lincoln Volunteers. It served in the 1800 Kaffir war, then at Malda (1806). A battalion was with Moore during the retreat to Corunna, and with Wellington in the Peninsula and at Waterloo. It was in India and Afghanistan in 1878-79. The linked regiment gained further honours at the defence of Kimberley during the S. African war, 1899-1902. During the First World War it raised twenty-one battalions, which served in France, Flanders, Macedonia, Gallipoli, Egypt, Palestine, Mesopotamia, and E. Africa. In the Second World War the Loyals were part of the Eighth Army (1941) and fought in many of the battles on the front. Other units of the regiment fought against the Jap invaders of Brit. Malaya in 1941 and were conspicuous in the battle of Gemas (1942).

Loyalty Islands, group of is. in the Pacific, 60 m E of New Caledonia, consisting of three large is., viz. Lifu, Maré and Uea, and sev. smaller is., having a total area of about 800 sq. m. They are an administrative dependency of New Caledonia and have belonged to France since 1864. The chief product is coconuts and the chief export copra. The climate is healthy. Pop. about 18,000.

Lloyd, Samuel Jones, see **OVERSTON BARON**.

Loyola, Ignatius de (Inigo Lopez de Ricalde) (1491-1556) founder of the Society of Jesus was the thirteenth and youngest son of a Spanish nobleman and was born at the castle of Loyola in the Basque prov. of Guipuzcoa. After serving as a page at the court of Ferdinand and Isabella, he embraced a soldier's career, which, however, he was obliged to renounce in 1521, owing to a wound received at the siege of Pampluna. The accident made him lame for life. It was during the wearisome convalescence that his nature underwent one of those curious metamorphoses which affected Francis of Assisi and to a certain extent Tolstoy. In the army he had been distinguished for his courage and force of character, but on the other hand he had freely gambled and amused himself with women. When his sickness left him the ardour of his nature was unimpaired only by the highest religious aspirations, and after a period of mental unrest, during which he practised fasting, scourging, and other austerities and was a victim to a host of morbid sentiments, he eventually found his way as a pilgrim to Jerusalem (1523). This journey was followed by years of patient study at Alcalá, Salamanca, and from 1528 at Paris. In 1534 a band of seven students among them Francis Xavier, Pierre Lejeune (Faber), Diego Laynez and Simon Rodriguez, gathered together under the

leadership of L., in the church of St. Mary on Montmartre and having taken the vows of chastity and poverty, swore either to prosecute a ministry in the Holy Land or to serve the pope where he directed. In 1537 Ignatius was ordained priest at Venice, in 1540 he obtained the sanction of Pope Paul III. for his Society of Jesus and the following year he was chosen its first general, an office he held till his death although again and again he expressed his longing for a life of solitude and prayer. His face is a key to his character, the lofty forehead suggests that intellectual grip which enabled him to frame his *Constitutiones* and those *Constitutions* which



IGNATIUS DE LOYOLA

Painting after a picture by Rubens

in the third day the basis of the organisation of his society (see **JESUIT**). He was canonised in 1622, and his day is July 31. See **ALIX** (ed.), *Ignatius Testament* (1900) and **J. Brodick**, *The Origin of the Jesuits* (1910).

Lovson, Charles, see **HYACINTHE PIRE LOZERS**, dept of France formerly part of the old prov. of Linguado. The surface is exceedingly mountainous and is traversed by the Cevennes and other ranges. A peak of the former attains an elevation of 7600 ft. On the mt. slopes, looking towards the Rhone valley, cattle and sheep are reared and the olive, vine, and mulberry are cultivated. The rearing of silkworms and the manu. of cheese are important industries, and chestnuts are one of the leading products. The mineral wealth consists of lead, silver, copper, and antimony. Marble, granite, and slate are quarried. It has two arrons., Mende and Florac, and Mende is the cap. of the dept. Area 1986 sq. m. Pop. 90,500.

Luang-Prabang, cap. of the kingdom of Laos, Indo-China, on the l. b. of the

Mekong, situated in the midst of a forest of palm-trees, and surrounded by mts. Pop. 10,000.

Luban (Ger. *Lauban*), tn. in Silesia, Poland, 15 m. E. of Zgorzelec (Gorlitz). It is a centre for the linen industry, and has ceramic works and railway shops. Pop. 18,400.

Lubao, pueblo of Luzon, Philippine Is., 5 m. S.W. of Bacolor, situated in a rice and sugar dist. Pop. 21,000.

Lübben, tn. of Brandenburg, Germany, 47 m. S.E. of Potsdam, on the Spree. Pop. 7,000.

Lubbock, Sir John, see *AVLBURY*, BARON.

Lübeck, former Ger. republic, now in Schleswig-Holstein. The prov. of L. lying to the N. was part of the grand duchy or republic of Oldenburg. The state lay in the lowlands of the Baltic, watered by the Trave and its tribs. The soil of the area is fertile, except the forest lands (14 per cent of area), and produces rye, wheat, potatoes, hay, and much fruit. The supreme power under the 1925 constitution was vested in the people, who elect a *Bürgerschaft* of eighty members and this House elected a senate of eleven, which was the highest executive authority.

The free city of L. was one of the Hanseatic tns., formerly head of the Hanseatic League, 40 m. by rail from Hamburg. Prior to the Brit. air attack on March 28, 1912, L. was a grand anct. city, containing five Gothic churches, full of medieval works of art: the Rathaus, the Schifferhaus, medieval gates (Hoktentor, Burgtor), the hospital of the Holy Ghost, and a valuable museum. The Brit. bombers left the whole port area ablaze and the fires reached uncontrollable dimensions. A great number of historical buildings, including the dome of the church of St. Mary, the tn. hall, the museum, and many old burgher houses dating from Hanseatic times were destroyed. The military value of this first raid was that L. (together with Rostock (q.v.) and Warnemünde (q.v.)) was a vital port for handling troops and supplies for the N. Russian front. Nearly half of the old inner L., with its port facilities and industrial plants, was wiped out, largely through incendiary bombs. L. was taken by Brit. forces on May 2, 1915.

L. was founded in 1140 and quickly gained commercial importance. It was ceded to Saxony in 1158, obtaining its first charter from Duke Henry; conquered by Denmark, 1201; regained its liberty and was made a free city by Frederick II.; sacked by the Fr., 1806, and annexed, 1810, but became once more a free city, 1813, and joined N. Ger. confederation in 1866. L. was a rival of Hamburg and Bremen as a Ger. emporium, having a good harbour and quays, and ice-breakers to keep the riv. open. It traded chiefly with Denmark, Russia, Sweden, and Finland in machinery, chemicals, brushes, and other manufactured goods. Pop. 223,000. See F. Endres, *Geschichte der freien u. Hansestadt, Lübeck*, 1926.

Lüber, Thomas, see *ERASTUS*.

Lublin, tn. of Poland, cap. of L. prov.,

bounded N. by Siedlce, E. by the R. Bug, S. by Galicia, and W. by the R. Vistula. About one-third of its surface is oak, beech, and lime forest, less than one-twelfth pasture land, and the rest arable. In some parts the soil is fertile, black earth, but other parts are sandy. Rye, oats, wheat, barley, and potatoes are the chief crops; flax, peas, millet, and beet-root are also cultivated, and horses are bred. A univ. was founded in 1919. The chief industries are distilling and sugar-making. Chief exports: grain, wool, and wood.

After the First World War L. was one of the Polish military dists. Heavy destruction was wrought by Ger. bombers. In the invasion of Poland, on Sept. 15, 1939. In the Russo-Ger. partition of Poland on Sept. 28, 1939, L. fell within the Ger. sphere. It remained in Ger. occupation until it was taken by the Russians on July 24, 1941. Area, 6500 sq. m. Pop. (tn.) 122,000; (prov.) 2,460,000.

Lubricants and Lubricators. Lubricants are substances interposed between moving surfaces to reduce the friction between them and prevent them becoming hot. There are two types of lubrication: hydrodynamic or fluid lubrication and boundary lubrication. The former is the condition in which bearing surfaces are separated by a relatively thick film of lubricant, the latter when the surfaces are separated by a film of lubricant only a few molecules thick. The co-efficient of friction in the second case is higher than is the case with fluid lubrication and special properties are required in a lubricant which has to function under boundary conditions. Lubricants may be of the solid, semi-solid, or liquid type. The first variety, such as graphite or plum-bago, seems to act as rollers or serve to fill roughnesses in the surfaces in contact, thus coating them with a soft slippery material. They are used chiefly for wood, rough iron bearings, and all very hard materials. Semi-solid and liquid lubricants are much more important and consist of various animal, vegetable, and mineral oils often mixed and thickened or solidified with soaps. Where possible oil is used as the lubricant, but in many cases grease lubrication is desirable. Grease does not leak out of bearings to the same extent as does oil, and moreover will form a protective seal against the entry of dirt and moisture. Semi-solid greases are used for railway wagon axles and the bearings of slow-moving machinery, being generally introduced by a syringe fitted with a spring piston or else by a screw plug. Fluid lubrication occurs when there is a copious supply of lubricant between two surfaces which are moving relative to one another at moderately high speeds. The film between the surfaces is maintained by the lubricant being dragged in between the surfaces due to the movement between the surfaces and depends solely on the viscosity of the lubricant and the relative speed of the surfaces; it is independent of the type of lubricant. Thus it is possible to lubricate high-speed spindles by means of air or any other

gas at high pressure. A lubricant should have sufficient viscosity and must not be volatile or be decomposed by heat or congealed by cold. It should not be oxidised by exposure to the air or acid so as to affect the metal of bearings, nor must it be easily inflammable but ought to be able to carry off the heat generated by the inevitable amount of friction. A mineral oil, therefore, has a number of advantages over other fluids, e.g. high viscosity and relatively high resistance to chemical change. An example of fluid lubrication is in a journal bearing where the rotation of the journal drags the oil between it and the bearing so that the journal is separated from it by a film of oil. The thickness of the film varies with operating conditions of the bearing, but it will be very thin by ordinary standards, probably something of the order of a thousandth of an inch. This is very thick, however, compared with the dimensions of the molecules of which the oil is composed. About 100,000 or more of these molecules, placed end to end, would be required to form the thickness of this film.

Lubricators are mechanical contrivances for introducing the lubricant to the rubbing surfaces. For applying solid lubricants (tallow, lard, etc.) a simple box is used above the part to be lubricated with a hole in it of a size adjusted to the viscosity of the material and the freedom with which it is to run. For the animal or vegetable oils the usual form is a brass or glass vessel of varying capacity fastened to the journal box and having a hole at the bottom through which a vertical tube rises nearly or quite to the top of the oil cup. A channel leads from the cup to the bearing to be oiled and a leader of lamp-wick often twisted round a wire-shaped Γ is inserted partly into the tube, the rest falling into the oil so that the wick acts as a siphon. Oil lubrication systems may be divided into three broad categories: (1) total loss systems (non-circulating), (2) circulating systems, (3) bath and splash systems. With the total loss method a comparatively small quantity of oil is delivered either intermittently or continuously to the bearing surfaces. The used oil from these working surfaces runs to waste and is not re-circulated. The fresh oil may be applied in a number of ways, using methods ranging from hand oiling to complicated centralised pressure systems. Typical examples of this system are drip-feed lubricators and mechanical lubricators. The first type consists of an oil cup with an adjustable outlet from which the oil falls drop by drop on to the bearing. A window is provided so that the oil drops can be seen and the flow can be regulated. A disadvantage with this type of lubricator is that it must be turned off and on by hand each time the machine is started and stopped. In the case of mechanical lubricators the engine or machine normally operates a number of pumps, each of which delivers a given amount of oil through a series of pipes to the various lubricating points. This method is widely

used in group lubrication systems, e.g. large Diesel engine cylinders, air compressors, steam engines, etc. In the case of circulating systems a relatively large supply of oil is kept in circulation and is delivered under pressure to the bearings. From a reservoir oil is fed by pump or gravity through pipes or passages to the working surfaces. Excess lubricant may be returned to the reservoir by gravity or by means of a scavenge pump. Typical examples of such systems are to be found in the case of automotive engines, aero engines, and steam turbines. With this method the oil also functions as a coolant. A typical example of the bath and splash system is the ordinary gearbox where the pinions dip into the oil and splash it freely around all bearings and moving parts. Variations of this method are chain or ring oilers where a ring or endless chain, rotating loosely on the journal or shaft, dips into a bath of oil and carries the oil up to the bearing surfaces. In other cases a shaft or spindle may rub against a felt pad impregnated with oil. An important development in the lubrication of marine and other engines was the invention of the Michell Thrust Block, and the ball and roller bearings made by such firms as SKF and Ball Bearing Company Ltd. and Hoffmann Manufacturing Company Ltd., and the Timken Company have simplified the mounting and lubrication of machinery. See J. H. Hyde, *Lubrication and Lubricants*; E. N. de C. Andrade, *Engines*; A. W. Nash and A. R. Bowen, *The Principles and Practice of Lubrication*, 1937; Institution of Mechanical Engineers, *General Discussion on Lubrication*, 1937; and A. W. Judge, *Modern Petrol Engines*, 1946.

Luc, Jean André de (1727-1817), geologist and meteorologist, who invented a new form of hygrometer, and pub. the first correct rules for measuring heights by the barometer. His *Recherches sur les modifications de l'atmosphère* (1772) contains many important facts relating to heat and moisture.

Luca della Robbia, see ROBRIA.

Lucan, Marcus Annæus (Lucanus) (c. A.D. 39-68), Rom. epic poet, b. at Cordova, Spain, nephew of the philosopher Seneca. Educated at Rome, he at first won the favour of Nero, who later grew jealous of him, and forbade him to recite in public. L. immediately joined Piso's conspiracy, but was betrayed and induced to turn informer by promises of pardon. Having revealed his accomplices, even including his own mother, he was condemned to death, but forestalled a traitor's death by suicide. His only extant work is the famous epic *Pharsalia*, dealing with the struggle between Caesar and Pompey, after the crossing of the Rubicon. There are eds. by H. Grotius, 1614; Weber, 1821-31; C. Haskins, 1889; E. Ridley, 1919; and A. E. Housman, 1928. Fr., Ger., and Eng. versions have appeared. See Palmer, *Apologia pro Lucano*, 1704; F. M. Voltaire, *Essai sur la poésie épique*, 1760; J. Meusel, *Dissertationes* (vol. II.), 1767; C. Welser, *Vita*, 1835; and Obermeyer, *Sprachgebrauch des Lucanus*, 1886; also study

by E. Malcovati, 1940, and W. Fischl, *Studien zum Fortleben der Pharsalia*, 1945.

Lucania, anat. div. of S. Italy, between the Tyrrhenian Sea and the gulf of Tarentum, separated from Campania by the R. Silarus (N.) and from Bruttium by the R. Lous (S.). The original inhab. were subdued by the Samnites (c. 300 B.C.), in turn subjected by the Romans. (272). Sybaris, Hieracles, Thuril, and Paestum were among the chief cities. In modern times the compartimento of Basilicata (prov. of Potenza and Salerno) represents L.

Lucaris, Cyril (c. 1572-1637), Gk. theologian and prelate of the Orthodox Church, native of Candia (Crete). He became patriarch of Alexandria (1602), of Constantinople (1621), and attempted to reform the Gk. Church on Calvinistic lines. For this he was deposed and exiled to Rhodes. He was recalled, but again expelled by his orthodox opponents and the Jesuits. His *Confessio* appeared in 1692. He gave to England the *Code Alexandrinus* MS., now in the Brit. Museum. He was probably slain by the sultan's janissaries. See J. Asmon, *Lettres anecdotes de Cyrille-Lucaris*, 1718; A. Pöhlner, *Geschichte der kirchlichen Trennung zwischen Orient und Occident* (vol. I), 1864; and study by G. Hofmann, 1929.

Lucarne, see DORMER.

Lucas, Edward Verrall (1868-1938), Eng. author and editor. In 1902 he joined the staff of *Punch*, and achieved success with skits written in collaboration with C. L. Graves, the best remembered being *Wisdom While You Wait* (1903) and *Huddled History* (1904). He also wrote many travel books, and became chairman of the publishing house of Methuen. His other works include a biography (1905, 1921) and *The Letters of Charles Lamb* (1935); *A Book of Verses for Children* (1897, 1907); *The Open Road* (1899); *Highways and Byways in Sussex* (1904); *A Wanderer in Holland* (1905); *Fireside and Sunshine* (1906); *Listener's Lure* (1906); *A Wanderer in Florence* (1912); and *Vermeer the Magical* (1929). His memoirs, *Reading, Writing, and Remembering*, appeared in 1932, in which year he was made a companion of honour.

Lucas, John Seymour (1849-1923), Eng. historical and portrait painter, b. in London. He received his training at St. Martin's School of Art, and entered the Royal Academy in 1871. In 1880 he became an associate, and in 1898 an R.A. His first picture, the 'Apothecary' from *Romeo and Juliet*, was exhibited in 1872. His best works include 'The Burgomaster' (1877); 'Armada in Sight' (1880) (representing Drake finishing his game of bowls on Plymouth Hoe); 'Spy in Camp' (1882); 'Whip for Van Tromp' (1883); 'After Culloden' (purchased by the Royal Academy); 'Eloped', 'The Smoker', and 'Peter the Great at Deptford'. He was commissioned by King Edward to paint the reception of the Moorish embassy in 1901.

Lucas van Leyden (1494-1533), Dutch painter, b. at Leyden, contemporary and rival of Albrecht Dürer. He studied under Cornelis Egelbrechtsen, and was a

celebrated engraver early in life. In 1514 he settled in Antwerp, and was elected a member of the guild of St. Luke. His best known paintings include 'The Last Judgment', 'St. Peter, Martyr', 'Christ Healing the Blind Man of Jericho', 'A Card Party', 'Virgin with Saints', etc. He is eminent as an engraver for his skill in grouping figures. See W. Ewald, *Lucas de Leyde et Albert Dürer*, 1883; studies by R. Kahn, 1918, and L. Baldass, 1923; M. J. Friedländer, *Meister der Graphik*, 1924; and R. H. Wilenski, *Introduction to Dutch Art*, 1927.

Lucas, Vrain, see under CHARLES, MICHELL.

Lucayos Islands, see BAHAMAS.

Lucca: 1. Prov. of Tuscany, Italy, bordering on the gulf of Genoa. Silk, oil, wine, and chestnuts are produced. Area 558 sq. m. Pop. 350,000. 2. Cap. of above, on the Serchio, 10 m. N.E. of Pisa. It contains the famous eleventh-century cathedral of San Martino, with valuable paintings and antiquities, sev. churches of Carrara marble, the Palazzo Provinciale, and two academies. There are remains of a Roman amphitheatre, and to the S. of the town an aqueduct with 459 arches. L. manufactures velvets, silks, and other textiles, glass, paper, linoleum work, and cigars. In the 1914 battle the town escaped very lightly, and only slight damage was sustained by the cathedral. Santa Maria Formosata, and the Palazzo Governativo.

There have been bishops since A.D. 347, and L. was made an archbishopric without suffragans (1726). The ant. Lucca is mentioned by 218 B.C. In 177 the Romans founded a Lat. colony there, and it was a municipium by 90 B.C. L. was annexed to the kingdom of Italy in 1860. The Bagni di L. (Bagno a Corsena) are in the Lucca valley. Pop. 83,000. See Del Carlo, *Storia popolare di Lucca*, 1877; J. Russ and N. Krichson, *The Story of Lucca*, 1912; and E. Lazzarochi, *Lucca*, 1931.

Luce, Clare Booth (b. 1903), Amer. playwright and journalist, b. in New York city, married Henry L. (a.g.) in 1935. On the editorial staff of *Vogue* (1930); *Vanity Fair* (1931-34). She was a member of the U.S. House of Representatives from 1943 to 1947. Her plays *The Women* (1937) and *Kiss the Boys Good-bye* (1938) are maliciously witty satires on the follies and deceptions of women. *Stuffed Shirts* (1933); *Margin for Error* (plays, 1939); and *Europe in the Spring* (1940) are among her other plays, the last-named being a description of the Ger. invasion of France and the Low Countries in 1940. She has also written articles on travel.

Luce, Henry Robinson (b. 1898), Amer. publisher and editor, b. in Shanghai, China. He studied in England and on his return from Oxford Univ. L. and some Yale friends, in 1923, founded and pub. *Time*, the great success of which magazine encouraged the foundation in 1930 of *Fortune*, which 'sold' the romance and glamour of Amer. business far more effectively than the conventional and uncritical business magazines had done. It was intended for readers with incomes

of \$10,000 a year and over. In 1936 L. bought the title of the dorelet comic monthly periodical, *Life*, and estab. a new and lavish pictorial weekly, which was as successful as his previous ventures. The smart streamlined, irreverent style of *Time* and *Life*, and the thoroughness and frankness of *Fortune*, made those papers especially representative of the disillusioned generation which had lived through the First World War, the boom, and the slump, yet lacked the simple faith to seek a return to 'normalcy' as a solution for present discontents. See D. Brogan. *U.S.A.*, 1941.

Lucena: 1. Tn. of Cordova prov., Spain, on the Cascajar. Woollen and linen fabrics, pottery, watches, and metallic wares are manufactured. There is a well-known local breed of horses. Pop. 25,000. 2. Small tn. of Castellón de la Plana, Spain, 45 m. from Valencia. Pop. 5000.

Lucera, Duke of, see GALLAS, MATTHIAS VON.

Lucera, or **Luceria**, tn. of Foggia prov., S. Italy, 11 m. W.N.W. of Foggia. It has a thirteenth-century castle, a medieval cathedral (once a Saracenic mosque), and a fine episcopal palace. The silk trade cathedral (once a Saracenic mosque), and a fine episcopal palace. The silk trade thrives. Pop. 20,000.

Lucernal Microscope, optical instrument invented by George Adams, and so called because the image of the object observed is thrown on a screen by the rays of light from a lamp (Lat. *lucerna*), reflected from the object. An Argand lamp is used to give the required light; it is placed beyond the object, and the light, after passing through a hemisphere of glass, falls on a small concave mirror, which reflects the light on to the object. By the refraction of the light in passing through the lenses, a highly magnified image of the object is formed on the screen.



John H. Stone

THE LION OF LUCERNE

Lucerne: 1. Canton of N. Central Switzerland, next in importance to Zürich and Bern. The surface in the N. is mountainous, but the soil is generally fertile. Its area is about 580 sq. m., and about four-fifths consists of pastureland. Grain,

flax, hemp, and potatoes are produced, and the manuf. of cheese and condensed milk is important. It is generally French-speaking. Nine representatives are sent to the Nationalrat. Pop. 206,000. 2. Cap. of the canton, and one of the most popular tourist centres in Switzerland. It is situated picturesquely on the banks of the Reuss as it issues from the lake, and is 24 m. S.S.W. of Zürich. To the S. of the city towers Mt. Pilatus (7000 ft. above sea level), while on the E. rises the famous Rigi. Amongst the numerous features of interest are the celebrated rock, the 'Lion of L.' carved by Thorwaldsen as a memorial to the Swiss Guards who fell in Paris (1792), the Hofkirche of Leodegar, glacier garden, and the tn. hall, dating from the seventeenth century. L. has only a small trade, and manufs. some silk and ironware, the accommodation of tourists being the chief business of the inhab. Pop. 60,000.

Lucerne, Lake of (Vierwaldstättersee, lake of the Four Forest Cantons), one of the most lovely and celebrated of European lakes, situated in the N. central part of Switzerland. Its greatest length is 23 m., and its average breadth is about 2 m.; greatest depth, 700 ft. Its altitude is 1435 ft., and it is in the shape of an irregular cross.

Lucerne, see ALFALFA.

Luchu Islands, see RYUKYU ISLANDS.

Lucian (ΛΟΥΚΙΑΝΟΣ) (c. A.D. 120–after 180). Gk. writer of the 'silver age' and free-thinker of the Christian era, a native of Samosata. He travelled in Greece, Italy, and Gaul, settled at Antioch (160), and then moved to Athens. Many of his best works were written between 160 and 180, in the reign of Marcus Aurelius. He is chiefly noted as a satirist and one of the world's greatest wits. Among his numerous productions may be mentioned *Dialogues of the Gods*; *Dialogues of the Dead*; *Zeus Confounded*; *Zeus Tragedian*; *Sale of Lives*; *The Incredulous*; *Symposium*; *Charon*; *Menippus*; *Democritus*; *Twice Accused*; *The Fisherman*; *Timon*. His *True History* inspired Rabelais's *Voyage of Pantagruel*, Swift's *Gulliver's Travels*, and Cyrano de Bergerac's *Journey to the Moon*; his works influenced Voltaire also. See eds. of his works by T. Hemsterhuis and H. Reitz, 1743–46; J. T. Lehmann, 1822–31; L. Dindorf, 1858; C. Jacobitz, 1874, 1886–88; Sommerbrodt, 1886–93; M. Weber, 1910–13 (Eng. trans. by T. Franklin, 1741); A. M. Davidson, 1902; and H. Fowler, 1905. See also Jacob, *Charakteristik Luciana*, 1832; F. Passow, *Lucian und die Geschichte*, 1854; W. Collin, *Lucian*, 1873; H. Bernay, *Lucian und die Kyniker*, 1879; M. Gröbet, *Essai sur Lucian*, 1882; P. M. Bultmann, *Studia Luciana*, 1893; H. W. Heine, *Lucian the Syrian Satirist*, 1900; B. Gildersleeve, *Essays and Studies*, 1900; Sir R. Jebb, *Greek Literature: Essays and Addresses*, 1907; and studies by R. Helm and L. Menipp, 1906.

Lucian, Saint (c. A.D. 240–312), Christian martyr of Samosata, prophyet of Antioch. He was celebrated as a biblical scholar, and prepared a revised ed. of the

Scriptures. He was tortured to death by Maximian's orders in Diocletian's reign. See Jerome, *De Viris Illustribus sive de Scripturibus Ecclesiasticis*; C. G. Harnack, *History of Dogma*, iv., 1891; C. J. Helele, *History of the Councils*, i., 1871.

Lucientes, Goya y, Francisco José de, see GOYA Y LUCIENTES.

Lucifer: 1. (Lat., light-bearer), morning star, and the Lat. name for the planet Venus, corresponding to the Gk. *phosphoros*. When the identity of the morning and evening star was recognised, Phosphorus and Hesperus were made brothers. 2. Hesiod makes L. the son of Eos, the Dawn, and Astræus; others call his father Cephalus. He had charge of the temple of Aphrodite, and was much in favour with the goddess. 3. In the A.V. of Isaiah the word is used with reference to the glory of the king of Babylon, but the Church fathers attached the name to Satan, thinking that the passage, 'How art thou fallen from heaven, O Lucifer, son of the morning,' contained a reference to the Prince of Darkness. Thus the word L. has come to be used to denote the fallen angel. See A. Müller, *Die Gestalt Lucifers in der Dichtung vom Barock bis zur Romantik*, 1940.

Lucifer (d. 371), bishop of Calaris (Cagliari) in Sardinia, an ardent supporter of Athanasius, noted for his intolerance and zeal against Arianism; in consequence he was banished by Constantius in 355. His exile ended on Julian's edict (362). He refused to recognise as orthodox bishops who had signed the Rimini formula (359), and finally caused a schism in the church of Antioch. His followers were called Luciferians, but the sect soon disappeared. See ed. of his works (including *Defence of Athanasius*) by Tilus, 1568; J. P. Migne, *Patrologia Latina*, xlii.; and life by Krüger, 1886.

Luogen Lamp, very powerful artificial lamp, first used in 1885. The light is produced by burning creosote oil, held in a strong iron tank in the form of a circular drum. With the more general use of electricity for lighting purposes the L. L. has now become obsolete.

Lucilius, Calus (c. 148-103 B.C.), Rom. satirist, b. at Suessa of the Aurunci. He is regarded as the founder of Rom. satire, for although his verse is rough it is fluent, and was the model on which Horace and Juvenal based their polished and elegant poetry. He was a personal friend of Scipio, whom he accompanied on the expedition against Numantia, and of Lucius. L. wrote thirty satires, but only fragments remain. The best eds. are those of L. Müller, 1872; C. Lachmann, 1876; and F. Marx, 1904. See L. Müller, *Leben und Werke des Lucilius*, 1876; J. Mackail, *Latin Literature*, 1895; and G. C. Fisher, *Lucilius and Horace*, 1920.

Lucina (Lat. *lux*, light), in Rom. mythology, the goddess of light, corresponding to the Gk. goddess, Ilithyia. When invoked she attended women in labour and brought children to light. It was used as a surname of both Juno and Diana, who presided over the labours of women.

Lücke, Gottfried Christian Friedrich (1791-1855), Ger. Protestant theologian, b. at Egein, near Magdeburg. He became prof. of theology at Bonn (1818-29) and at Göttingen (1827-35). He was one of the founders of the *Theologische Studien und Kritiken*, the chief organ of the 'mediation' school of evangelical theologians. His prin. works are *Grundriss der Neuhebraeischen Hermeneutik* (1817); *Kommentar über die Schriften des Evangelisten Johannes* (4 vols.) (1820-32); and, in collaboration with W. de Wette, *Synopsis Evangeliorum* (1818). See life by F. Sander, 1890.

Luckenwalde, tn. in Brandenburg, Germany, 22 m. S.E. of Potsdam, on the R. Nuthe. There are textile manufs. Pop. 28,800.

Lucknow, chief city of the dist. of the same name, India, cap. of the United Provs. of Agra and Oudh. The city stands on the r. b. of the Gumbi, 43 m. N.E. of Cawnpore by rail. It is of great interest to Englishmen on account of the glorious defence of the Residency by a handful of Brit. soldiers (May to Nov. 1857). The most notable buildings are the Imambara, the mausoleum of Asaf-ud-Daula, the palaces of Chhatrar Manzil, the Residency, the Lawrence Memorial, and the great mosque, Jama Masjid. The inhab. are engaged in gold and silver brooding, brass, copper, and clay work, and in the manuf. of shawls, paper, muslins, etc. The Canning College, founded in 1864, the univ. (1920), and La Martinière College for soldiers' sons, are the prin. educational establs. Pop. 387,100. The dist. of L. now has an area of 970 sq. m. Pop. 950,000. The div. of L., comprising six dists., has an area of 12,051 sq. m. Pop. 6,531,000. See J. J. McLeod Innes, *Lucknow and Oude in the Mutiny*, 1895.

Luçon, tn. in the dept. of Vendée, France, 21 m. N. of La Rochelle, and is connected with the sea by a canal 8 m. long. It is the seat of a bishopric, and has a cathedral dating from the eleventh century. There are iron and copper industries, and manufs. of liqueurs and cloths. Pop. 6600.

Lucretia, celebrated Rom. matron, the wife of Lucius Tarquinius Collatinus, and the daughter of Lucretius. According to the story a number of Rom. soldiers in camp quarrelled as to the respective virtue of their wives, and, in order to test the truth of their assertions, returned unexpectedly to Rome to see how their wives were occupied. L. alone was found loyal to her husband, busily occupied on household matters. Her beauty and innocence roused the passion of Sextus Tarquinius, who visited her at night and ravished her. In the morning she told her father and her husband of her shame and then stabbed herself. Her rape roused the Romans to shake off the hated rule of the Tarquins. See Shakespeare's *Rape of Lucretia* and Thomas Heywood's play of the same name.

Lucretius, or Titus Lucretius Carus (c. 99-55 B.C.), Rom. poet, concerning whose life authentic information is entirely lacking. His *De rerum natura*

is a didactic poem on Epicurean philosophy in six books, and is addressed to C. Memmius Gemellus, who was praetor in 58 B.C. The chief aim of the poem is to free men from superstition, to accustom them to the idea of complete annihilation at death, and to rid them of the idea of divine interference. Gods there are, beings a little higher than mortals, but to them, too, death and corruption come, bringing total eclipse. Regarding mortal concerns they live in supreme contempt. Throughout the whole universe the atom alone is eternal and incorruptible. These theories are expounded by L. with a passionate eloquence, fervour, and power that are quite unparalleled in Lat. literature. See H. A. J. Munro's trans. and commentary (1886); study by O. Regenbogen, 1932; and definitive ed. with trans., commentary, *apparatus criticus*, and prolegomena by C. Bailey, 1948.

Lucronius, see LOGROND.

Lucullus, Lucius Licinius (c. 110-57 B.C.), celebrated Rom. general of plebeian stock. He first distinguished himself in the Marian war, and afterwards fought in the Social war on the side of Sulla, and became praetor in 77 and consul in 74. In the latter year he was entrusted with the care of the Mithridatic war, and remained in Asia for eight years. During the campaigns of 74, 73, and 72 he relieved Cotta, who had been besieged in Chalcidonia, destroyed the enemy's fleet off Lemnos, conquered Bithynia, and forced Mithridates to take refuge at the court of his father-in-law, Tigranes, king of Armenia. L. pursued him across the Euphrates, and took Tigranocerta, cap. of Armenia. His haughty temper, however, displeased the senate, who sent out Aedius Glabrio to take his place (67). He did not yield the command to his rival, but was obliged to resign to Pompey, who was sent out in the following year. On his return to Rome he retired from public life, and became notorious for his fondness of luxury. He had a famous villa on the promontory of Misenum, which afterwards became the property of Tiberius. He wrote a hist. of the Marian war in Gk. He was the first to introduce cherries into Italy, which he had brought with him from Cerasus in Pontus. See Plutarch's life and T. Mommsen, *History of Rome*, 1894.

Lucy, Saint (281-304), virgin and martyr, b. and d. at Syracuse. She was betrothed to a rich pagan who, irritated at her refusal to marry him, denounced her as a Christian to Paschasius, the governor, who beheaded her. She is the patron of the blind, and her day is Dec. 13.

Lucy, Sir Henry William (1845-1924), 'Toby, M.P.' of Punch, Eng. journalist, b. at Crosby, near Liverpool. After serving as a reporter on the *Shrewsbury Chronicle* he went to Paris, and afterwards joined the staff of the *Pall Mall Gazette* (1870). In 1873 he became parl. writer for the *Daily News*, of which he was editor in 1886-87. In 1881 he succeeded Shirley Brooks on *Punch* as the writer of 'The Essence of Parliament,' for which he

created the characters of 'Toby, M.P.' and the 'Member for Sark.' He wrote *Men and Manners in Parliament* (1875); *Faces and Places* (1895); *Mr. Gladstone, a Study from Life* (1896); *Memories of Eight Parliaments* (1908); *Sixty Years in the Wilderness* (1909, second series, 1912); *Nearing Jordan* (1918); *The Diary of a Journalist* (1920-23); and *Lords and Commons* (1921).

Ludd, see NUDD.

Ludd, El, see LYDDA.

Luddite Rioters, or Luddites, were organised bands of workmen who gave voice to the popular distress caused by the introduction of machinery and the consequent scarcity in the demand for manual labour. From 1811 to 1812 the Luddites destroyed stocking frames, steam power looms, and shearing machines throughout Nottinghamshire, Derbyshire, Leicester-shire, and Yorkshire. They derived their name from Ned Ludd, an idiot boy of Leicester-shire, who, unable to catch someone who had been tormenting him, destroyed some stocking frames in a fit of temper (1779). See the *Annual Register*, 1811, 1812, and 1816; G. Pellet, *Life of Lord Sidmouth*, 1847; and F. Peel, *Risings of the Luddites, Chartists, and Plug-drawers* (2nd ed.), 1888. Charlotte Brontë's *Shirley* includes an account of the attack on Hawththorpe Mill at Liversedge.

Ludendorff, Erich von (1865-1938), Ger. soldier, b. at Kruszwina, near Posen, entered the Cadet Corps in 1877 and the 37th Infantry Regiment in 1882; he gained accelerated promotion into the Marine Regiment in 1887. In 1890 he studied at Kriegsakademie, and was transferred to 8th Body Grenadiers in 1893, becoming captain in 1896, colonel in 1911, and commander 39th Fusilier Regiment 1913. At the beginning of the First World War L. was a brigade commander at Strassburg. He joined Gen. von Emmich's (q.v.) staff for the siege of Liège. In these operations he showed much initiative in organising and leading a Ger. brigade which penetrated the outer line of forts, for which service he received the order *L'our le Mérite*. On Aug. 22, 1914, he was appointed chief of staff of the Eighth Army in E. Prussia, the command of which was given to Gen. von Hindenburg (q.v.). Here L. was instrumental in winning one of the most brilliant battles in the hist. of warfare (see TANNENBERG, BATTLE OF). Following this he was appointed chief of staff to the S. army, in E. Prussia, but shortly afterwards went further S. to work in conjunction with the Austro-Hungarian Army in its operations against Przemyśl (q.v.).

The summer campaign of 1915 against the Russians brought his views into conflict with his superiors, but he loyally carried out the orders of his general headquarters. On Aug. 28, 1916, L. was appointed 'first quartermaster-general' to von Hindenburg and in that capacity was largely responsible for the subsequent military action of the central powers during the war. He staked practically his last throw on victory in March 1918, when peace with Bolshevik Russia enabled

him to withdraw vast numbers of trained troops from the E. front and put them into action in the W. before the Amers. could give the Allies anything approaching numerical superiority. When the Brit. and Fr. troops withstood his onslaughts he lost heart, and in the last period of the war insisted that an armistice should be sought.

He resigned his post on Oct. 26, 1918, and fled in disguise to Sweden. Later he returned to Germany, settling in Munich. He played an inglorious part in one of the 'putsches,' whose object was to overthrow the Ger. republic, but after the success of the Nazi revolution emerged again, and gained prominence for his violently nationalist and anti-Christian utterances.

Ger. historians have claimed that L., as much as anybody, lost the war for their country. It has furthermore been claimed that all the brilliant victories on the E. front, including Tannenberg, were planned by Gen. Max von Hoffmann. His *War Memoirs* were pub. in 1919, and he also wrote *The General Staff and its Problems* (1920) and *Warfare and Politics* (1922). See life by L. Bnat, 1920, and Col. G. von Horsteuau, *Collapse of Austria-Hungary*, 1930.

Ludenscheld, tn. in W. tpshala, Germany, 19 m. S.E. of Barmen. Pop. 10,000.

Luderitzland (S.W. Africa), see ANGRA PROPEL. In the First World War, Luderitz Bay was occupied by S. African forces in Sept. 1914. See AFRICA, SOUTHWEST, *First World War Campaign*.

Ludger, Saint (d. 809), Frisian by birth, educated under Gregory and Alcuin. He became a missionary in Westphalia, and played a great part in converting the Saxons to Christianity. He founded Münster and was its first bishop.

Ludhiana, tn. of the Jullundur div., E. Punjab, India, 73 m. S.E. of Amritsar. It manufs. famous Cashmere shawls, ornaments, and carriages. Pop. 111,700. The L. dist. has an area of 1452 sq. m. and a pop. of 819,000. Wheat and grain are grown.

Ludington, co. seat of Mason co., Michigan, U.S.A., on Lake Michigan, at the mouth of Marquette R. It is a health resort. It has a fine harbour, exports lumber, and has saw mills and canning factories. Pop. 8700.

Ludlow, Edmund (1617-93), Eng. parliamentarian and regicide, b. at Maiden Bradley, Wiltshire. On the outbreak of the Civil war he joined Lord Essex's Life Guards and fought at Worcester and Edgehill (1642). Elected to Parliament in 1645 he was one of the promoters of Pride's Purge (1648), and signed the death warrant of King Charles I. (1649). In 1651 L. was sent to Ireland as lieutenant-general of horse, and on the death of Ireton in Nov. held the chief command. When Cromwell was declared Protector he refused to acknowledge his authority, and retired from public affairs until 1659, when he was returned to Parliament as member for Hindon. At the Restoration (1660) he fled to Vevey, where he d. His memoirs were pub. in 1698-99, ed. by

Firth, 1894; see also F. P. Guizot, *Monk's Contemporaries* (Eng. trans., 1851).

Ludlow, tn. of Shropshire, England, 26 m. S. of Shrewsbury, at the junction of the Corve and the Teme. It was an old Rom. settlement, and contains a castle of the eleventh century. The grammar school was founded in 1382. The industries are tanning and brewing, and there are cabinet works and corn mills. Pop. 15,600.

Ludolfus, Job (the Latinized name of Hlob Leutholf) (1624-1704), Ger. orientalist, b. at Erfurt. He studied philology at Erfurt and Leyden, where, and on his travels, he is said to have acquired a knowledge of twenty-five languages. For many years (1652-78) he served the duke of Saxe-Gotha, and in 1690 was appointed president of the Collegium Imperiale Historicum at Frankfurt. His works include *Historia aethiopica* (1681); *Grammatica linguae amharicae* (1698); and *Grammatica der äthiopischen Sprache* (1857). See C. Juncker, *Commentarius de vita et scriptis Jobi Ludolfi*, 1710.

Ludovisi, Alessandro, see GREGORY (poet) - Gregory XV.

Ludwig (Ger. emperors), see LOUIS.

Ludwig, Emil (1881-1948), Ger. author, b. at Breslau (now Wrocław), son of Hermann Ludwig Cohn, a celebrated prof. of ophthalmology of Jewish race. Anti-Semitism in Prussian official circles compelled his father to adopt the surname of L. for his children but in 1922 Emil returned to the Jewish faith. He was educated at various Ger. univs. and at Lausanne. He wrote two verse dramas at the age of twenty-one. Eloping with Elga Wolf, whom he called Diana, daughter of a Scots mother and Ger. father, he went to Locarno, where he wrote a play on Napoleon. L. also lived in Italy and Vienna, often in financial straits, and wrote, but without success, two semi-autobiographical novels, *Iduna* and *Manfred* and *Helena* (1910, 1911). During the First World War he was a gov. journalist in various European camps. His next literary effort was a 'psychological' study of Bismarck, his first attempt in that method of biography which was soon to achieve such an enormous vogue with the reading public, particularly in England, the U.S.A., and France and, at the same time, to cause much bitterness among the anti-Semitic Ger. Nationalists. In 1920 he produced his first full-length biography, the two-vol. work (*Goethe: Geschichte eines Menschen*). A trans. of Shakespeare's sonnets appeared in 1923. In 1925 he wrote a drama on Bismarck and his biography, *Bismarck: Geschichte eines Kämpfers* in 1926, both highly successful. L. was a prolific and facile writer and among his next works were a life of Wilhelm II. (1926) (whose faults of character he attributed to the psychological inheritance of a withered arm); a life of Christ, *Der Mensch Christus* (1928); *July 1914* (1929), a narrative of events preceding the outbreak of war; a life of Lincoln (1930); *The Gifts of Life: a Retrospect* (1931) (autobiographical); *Talks with Mussolini* (1932); *Hindenburg* (1935);

Masaryk speaks (1936); *The Nile in Egypt* (1937); *Cleopatra* (1937); and *Roosvelt* (1938). L. adopted Swiss nationality in 1932 but went to California where he lived until 1945. The fashion of romanticising biography, which he so effectively developed, led him, in depicting historical personages or events, to subordinate intellectual power to dramatic interest. His last works, written while living in America and in Switzerland, were *Stalin* (1942); *The Germans* (1942); *The Mediterranean* (1943); *Beethoven: Life of a Conqueror* (1945); *History of Cuba* (1946); and *Othello* (1947). See critical biography by N. Hansen, 1930.

Ludwig, Karl Friedrich Wilhelm (1816-1895), Ger. physiologist, b. at Wiltzenhausen, near Kassel. In 1849 he was appointed prof. in anatomy and physiology at Zurich, and held the same post at Vienna (1853-65) and at Leipzig (1865-1895). His *Lehrbuch der Physiologie des Menschen* appeared (1852-56). He was one of the founders of the Leipzig Physiological Institute for original scientific research.

Ludwig, Otto (1813-65), Ger. dramatist and novelist, b. at Eislein in Thuringia. He studied music under Mendelssohn at Leipzig, but later adopted a literary career, and made his first success with a drama, *Der Erbforster* (1850), which was followed by *Die Makkabaer* (1852). His extraordinary power of psychological analysis is seen in his pictures of Thuringian life, *Die Heiterkeit und ihr Widerspiel* (1851) and *Zwischen Himmel und Erde* (1855). His *Shakespearestudien*, pub. posthumously by A. Stern 1891, show a fine discriminating taste. His *Gesammelte Schriften* were pub. in 1891-92 and in 1900. See studies by A. Stern, 1891; A. Sauer, 1893; E. Jentsch, 1913; and E. Tyrhoffer, 1931.

Ludwigsburg, tn. of Württemberg-Baden, Germany, 8 m. N. of Stuttgart. It was formerly the second royal residence and a military centre. The chief manuf. before the second World War were chemicals, cloth, linen, and organs. In the second World War the Amer. Seventh Army in the first half of April 1945 advanced speedily to a line through L., Crailsheim, and Nuremberg in order to link up with Patton's Third Army at Baireuth. Pop. 43,500.

Ludwigshafen, tn. on the Rhine in Bavaria, Germany, opposite Mannheim. It had a free harbour and before the second World War a combined pop., with that of the twin tn. Mannheim, of not much less than 430,000. L.'s individual pop. was about 150,000, and it is noted for its manufs. of aniline dyes, chemicals, and wool. It was frequently bombed by the Allies in the second World War: there was a heavy assault on Nov. 18, 1943, but the raids of 1944 were heavier. There were repeated assaults in the period April-June, 1944, notably on May 6, but the heaviest raids were those of Sept. 5, 1944, when 1200 Amer. bombers and 650 fighters attacked the chemical works, and on Dec. 15, when Brit. Lancasters also attacked those works. In the advance of

the Allies on the W. front the Amer. Third Army entered L. on March 21, 1945. L. and Mannheim were an impressive object lesson. Both of these tns., modern, solidly built, with blocks of magnificent flats, with great factories along the Rhine and wharves which made them together the largest port on the riv., rich and important, were completely annihilated. Not a house, bank, shop, or cinema was distinguishable among the piles of stone and twisted girders.

Ludwigs Kanal, see under MAIN.

Ludwigslust, tn. in Mecklenburg, Germany, 21 m. S. of Schwerin. The grand-dukes of Mecklenburg-Schwerin lived here until 1918. Pop. 6000.

Lufia, see LOOFIA.

Lufiji, see RUFII.

Luftwaffe, Ger. Air Force, was created in contravention of the treaty of Versailles before Hitler's advent to power and had its roots in the gliding and flying clubs of Germany and in the air transport genius of Deutsche Lufthansa. The building up of the L., according to well-informed opinion, was a work of intrigue and deceit dating almost from the armistice of 1918. But most of those who wanted to take up flying after the First World War had no thought of re-creating a fighting force; they believed in aviation as a sport and recreation, and as a means of transport. Unwittingly perhaps they laid the foundations for a new type of air force, which Hitler, Goering, and others could use as a major weapon in a new war of aggression. Some believe that the L., as a secret force was created to fight Russia, but that as late as 1938 it was nothing like as large a force as people in Britain supposed. Among the chief aircraft designers and constructors were Junkers, Focke, Klemm, Messerschmitt, Dornier, and Heinkel. It is asserted by some that of these Junkers, Klemm, and Focke were either not interested in, or even actually opposed to, Ger. rearmament in the air, but some of them, particularly Messerschmitt and Heinkel, took part in the development of aviation almost entirely on account of its war value. The treaty of Versailles, by prohibiting the building of military aircraft, helped the L., because it gave it entirely new types of machines created after the Allied Control Commission had departed from Germany in 1926. While the Allies were still flying obsolete biplanes of wood and fabric Germany was already producing all-metal monoplanes. The two men most responsible for Ger. air rearmament were Gen. Wilberg, head of the secret aviation div. (Fliegerzentrale) in the Ger. Ministry of Defence, and Ernst Brandenburg, who was in charge of civil aviation. When the Nazis came to power in 1933 Germany already possessed a well-balanced aviation industry. Hitler's decision to use the L. as a political weapon influenced its development. The L. was intended to produce quick results and therefore became a purely tactical force, and heavy bombers were ignored.

The Nazis prepared for a series of 'lightning' campaigns, and from the

moment they failed to bring complete victory the L. was doomed. The combined achievements of the L. and *Panzer* divs. in Poland, the Low Countries, and France suggested that Goering and his coadjutors had created a war-winning machine, but when the R.A.F. first checked the L. at Dunkirk, and then smashed it in the battle of Britain, doubts arose. Subsequent events proved that Germany was in no way invincible in the air, and the initial successes of the L. were due mainly to the element of surprise and the unpreparedness of other nations. Some reliable experts maintain that the L. was created as a tactical weapon to co-operate with the *Panzer* or armoured divs. in a series of *Blitzkrieg* operations, and, since it was not to have a strategical role, it was not provided with heavy bombers. Hence its weakness was exposed during the battle of Britain, and, after the conflict had settled down into a long war of attrition, it achieved no further spectacular successes. See also *World War, Second, Air Warfare: British Policy of Strategic Bombing; Bomber Command; Britain, Battle of*. See C. G. Grey, *The Luftwaffe*, 1944; H. Hermann, *The Rise and Fall of the Luftwaffe*, 1944; and A. J. F. The German Air Force, 1946.

Lugano, tn. in the canton of Ticino, Switzerland, on Lake L., 40 m. N.W. of Milan. It is a much frequented health resort. A famous cattle fair is held in Oct., dating from 1513. The chief manufs. are silk, leather, and iron goods, and it is a trade and banking centre. Pop. 17,000.

Lugano, Lake, in Switzerland and N. Italy, between Lakes Maggiore and Como, covers an area of 19 sq. m., and is noted for its beautiful scenery. Its altitude is 890 ft., and depth 945 ft.

Lugansk, Lugañ, or Luganskiya Zóavod, see VOROSHILOVGRAD.

Lugard, Sir Frederick John Dealtry, Baron (1858-1945), Brit. soldier and colonial administrator, b. at Madras, son of Rev. F. G. L., and educated at Rossall and Sandhurst. He joined the Norfolk Regiment in 1878 and served in the Afghan war, 1879-80, in the Sudan campaign for the relief of Gordon, 1884-1885, and in the operations in Burma after the fall of King Thebaw, in 1886-87. His later campaigns were directed mainly against the slave trade and native mis-rule in Africa. The three outstanding achievements in his career were his success in winning and in securing the retention of Uganda for the empire in 1893; the latter in the face of the whole of the Liberal Gov. except Rosebery, his initiation of the policy of 'indirect rule' (rule through native chiefs and bodies) during his governorship of Nigeria, and the pub. of his great book, *The Dual Mandate in British Tropical Africa* (1922). The African native has rarely if ever had a more zealous or effective pioneer, and, as such, he was recognised equally by other African administrators, by missionaries, and by leading anthropologists whose work lay in Africa.

His earliest efforts against the slave trade were in Nyasaland, where in 1888 he commanded an expedition from Blantyre against Arab slave-raiders, which though heavily outnumbered, defeated the slavers, L. being badly wounded. This work attracted the attention of Sir Wm. Mackinnon (q.v.) and L. took service with the Imperial Brit. E. Africa Company, founded by Mackinnon. L.'s immediate task was to open a new route from Mombasa to the hinterland and to explore the Sabakhi. This was followed by his expedition to Uganda, on whose chief ruler, the *kabaka* of Buganda, the notorious Carl Peters had imposed a Ger. treaty. But the Anglo-Ger. agreement of 1890 assigned Uganda to Great Britain, and L. and his small band of soldiers marched with remarkable rapidity to the cap. of Buganda where he eventually obtained the treaty he sought and brought order to the country. But the next year L., to his chagrin, was ordered by the Brit. E. Africa Company to abandon Uganda, the company being without funds for its administration. L. returned to England to advocate, in season and out of season, the desirability of retaining the country and he lived to see it become eventually one of the most prosperous and progressive of Brit. protectorates in Africa. The Brit. Gov.'s reluctance to hold the protectorate was the subject of a famous *Punch* cartoon entitled 'The Black Baby,' in the issue of April 21, 1894. In 1894 L. was sent by the Royal Niger Company to Borgu, where he forestalled the Fr. and Gers. in obtaining treaties with the chiefs, by which they acknowledged the sovereignty of the Brit. company, and where he made a lasting friend of King Kiama, in whose hands he put his life notwithstanding his realisation that Kiama was plotting to kill him. The Brit. Gov. then ordered L. to raise a native force to protect Brit. interests against Fr. aggression in the hinterland of Lagos and Nigeria. After a settlement had been reached with Fr. co., and the Royal Niger Company had surrendered its charter, L. was appointed high commissioner of N. Nigeria. Only a small part of this immense ter. was under effective control. The sultan of Sokoto and other sultans or emirs refused to fulfil their treaty obligations. But L. undertook a campaign against the doughty Fulani warriors which brought the whole protectorate under Brit. rule; and, by 1906 when he resigned his post, Nigeria was being peacefully administered under the supervision of Brit. residents. In 1906 L., who had retired from the army with the rank of colonel, resigned his commissionership to take up the governorship of Hong Kong, where his tenure of office was marked by the great impetus he gave to educational efforts; it was also during this period that the univ. of Hong Kong was founded. But this governorship in Asia was only an interlude in his African work and in 1912 he was sent back to the protectorate of Nigeria which now included S. as well as N. Nigeria, and also the colony of Lagos. In 1914 he

amalgamated the two Nigerias into one administration known as the colony and protectorate of Nigeria, the largest protectorate of the Brit. Empire, which, with the personal title of governor-general, he administered with conspicuous ability, bringing to its multiple peoples a great advance in civilisation and contentment. K.C.M.G., 1901, and G.C.M.G. 1911. Retiring from the colonial service in 1919, he became P.C. in 1920, and was raised to the peerage in 1928. Member of the Permanent Mandates Commission of the League of Nations, 1922-36. It was in 1922 that he pub. his classic work *The Dual Mandate in British Tropical Africa*, the thesis of which is the doctrine 'that Europe is in Africa for the mutual benefit of her own industrial classes and of the native races in their progress to a higher plane; that the benefit can be made reciprocal, and that it is the aim and desire of civilised administration to fulfil this dual mandate'; or, more shortly, the dual mandate is that development of indigenous resources, for the benefit of the world must go hand-in-hand with native well-being. Earlier in his career he wrote *The Rise of our East African Empire* (1893), which is partly autobiographical; *British East Africa and Uganda* (1892); and *Story of the Uganda Protectorate* (1901).

Lugdunum, see LYONS.

Lugger, small two- or three-masted vessel with a running bowsprit and lug-sails, i.e. sails hanging obliquely to the mast, and having generally two or three masts.

Lugo: 1. Maritime prov. of N.W. Spain. It is watered by the Miño and its trib., the Sil, and is a fertile region. Iron, granite, arsenic, and marble are found. Area 3815 sq. m. Pop. 513,700. 2. (Lucense or Lucus Augusti of the Romans.) The cap. of the prov. of L., situated on the l. b. of the Miño, 51 m. E. by N. of Santiago. It is enclosed by four massive Rom. walls, and has a beautiful Gothic cathedral, dating from the twelfth century. To the Romans it was noted for its hot sulphur springs. Pop. 52,700. 3. Tn. of central Italy, in the prov. of, and 14 m. W. of the city of, Ravenna. In the battles of 1444 the church of St. Dominic was almost totally destroyed and that of St. Lawrence completely demolished. Wine and hemp are produced. Pop. 28,000.

Lugos, cap. of the prov. of Krassó, Rumania, 35 m. E. of Temesvár. It is the seat of two bishoprics, Gik. and Lat. It trades chiefly in wine and fruit, and is a main railway junction for the Danube-Budapest route. Pop. 23,700.

Lug-worm, Fishing-worm, or Lob-worm (*Arenicola piscatorum*), marine worm of the sub-order *Tubicolae* or tube-makers, common on the Brit. coast, burrowing in the sand and mud, and indicating its whereabouts by spiral rolls of excrement. The worms are sought after by ground-feeding fish, and are therefore used in considerable quantities as bait by fishermen. Ls. grow up to 10 in. long, and are formed of numerous segments, thirteen of which have branchial tufts which appear to assist burrowing.

Luigi Amadeo Giuseppe Maria Ferdinando Francesco di Savoia-Aosta, see ABRUZZI, DUCA DI.

Luigi, Andrea di (commonly called Andrea d'Assisi and nicknamed 'L'Ingegno') (c. 1470-c. 1556), It. painter, b. at Assisi. He studied under Pietro Perugino, and in his youth was regarded as the rival of Raphael. Later he painted excellent figure studies in conjunction with his master in the hall of Canbio, and afterwards in the Sistine Chapel at Rome. When L. became blind at an early age Pope Sixtus IV. allowed him a pension. His 'Holy Family' is in the Louvre.

Luik, see LIEKE.

Luines, Charles d'Albert, see LUYNES, DUC DE.

Luini, Bernardino (c. 1470-c. 1535), It. painter of the Lombard school. He was b. at Luino, on Lake Maggiore, and was a follower, some think also a pupil, of da Vinci. His finest frescoes are in the church of the Madonna at Saronno, and he is represented by an oil painting, 'Christ disputing with the Doctors,' in the National Gallery, London.

Luis de Granada, see GRANADA.

Luisse, Auguste Wilhelmine Amalie, queen of Prussia, see LOTHA.

Lukaris, Cyrillus, see LUCARIS, CYRIL.

Lukas, or Leokas, see LUTYADIA.

Luke, The Gospel according to, has been ascribed by a continuous tradition, since the second century, to the writer whose name it bears. The question has been much canvassed, and many modern critics have denied that Luke had any share in the authorship either of the Gospel or of the Acts, which two are universally ascribed to one compiler. Others are willing to ascribe to him only the *vv.* sections in the latter work. But the majority of critics accept the traditional view, which has the support of the late Prof. Harnack, who places the date of St. Luke's Gospel before A.D. 80. Zahn places it about 75, while of more advanced critics who deny the Lucan authorship Julius places it about 105 and Lohs from 90 to 100. The author does not claim to be an eye-witness narrating from his own recollections but a compiler intending to give a more accurate compilation than those already in circulation. One of his sources was our St. Mark or a treatise very similar to this work. Another source which he had in common with the compiler of St. Matthew's Gospel, and which contained full accounts of the sayings of Our Lord, is generally known as Q (from the Ger. *Quelle*, a source). See A. Harnack, *Neue Untersuchungen zur Apostelgeschichte und zur Abfassungszeit der Synoptischen Evangelien*, 1911. See also commentaries by L. Ragg, 1922; J. M. Creed, 1930; H. Balmforth, 1930; and J. Chapman, 1937.

Lukuga, or Lukuja, see TANGANYIKA, LAKE.

Lulea: 1. Seaport and the cap. of the Lan of Norrbotten, Sweden, is at the mouth of L. R., on the N.W. coast of the gulf of Bothnia. It exports ore from the iron mines of Gellivara, and since 1943 pig-iron has been produced by electrical methods near by. Fish, skins, and forest products

are also exported. The harbour, which was improved in 1901, is closed by ice from Nov. to June. There is an airport. Pop. 15,200. 2. Riv. in the N. of Sweden, flows through the *lan* of Norrhoten into the gulf of Bothnia, entering the sea at L. after a course of 255 m.

Lull, Raimon, or Lully, Raymond (c. 1235-1315), Sp. mystic, known as the 'enlightened doctor.' He was b. at Palma in Majorca, and led a wild, dissolute life till 1286, when he was converted. After sev. years spent in solitude and meditation, he began a great missionary enterprise, carrying out his projects by preaching throughout Italy and in France, Armenia, and Africa. In 1314 he sailed on a crusade against Mohammedanism to Bugia (modern *Bougie*) in Africa, where he was stoned and died of his wounds. L.'s philosophy, as set forth in *Libri XII. Principiorum Philosophorum contra Averroistas*, was condemned by a papal Bull (1376), and is now of interest only for its breaking away from the scholastic system. His *Blanqueria* (1283) in some ways anticipates More's *Utopia*. His poems *El Desconort* (1295) and *Lo Cant de Raimon* (1299) are of great beauty. He estab. chairs in oriental languages at Oxford, Paris, and Salamanca. See A. Hefferich, *Raymond Lull*, 1858; Canalejas, *Las Doctrinas de R. Lull*, 1870; W. T. A. Barber, *Raymond Lully*, 1903; H. Ellis, article in *Contemporary Review*, May 1906; and E. A. Peers, *Fool of Love*, 1946.

Lully, Giovanni Battista (1633-97), It. composer, b. in Florence. He went to Paris, where he joined the band of Louis XIV., who made him director of the Académie Royale de Musique (1672). He introduced lively ballets into the Fr. opera, and in conjunction with the poet Quinault composed twenty operas, the chief of which are *Alceste* (1674); *Thésée* (1675); *Alys* (1676); *Phaeton* (1683); and *Armide* (1686). His *Miserere* was written for the funeral of Sequier. See lives by E. Radet, 1891, and J. Chancel, 1938.

Lulworth Cove, see WEST and EAST LULWORTH.

Lumbago, medical term applied to a painful affection of the muscles in the small of the back. It usually seizes the patient suddenly on some extra, but not unusual, movement calling on the lumbar muscles. In a severe attack the slightest movement gives rise to excruciating pain, necessitating complete rest in bed. It is probably of rheumatic origin, and may be seated in the cartilages and ligaments rather than the muscles. It appears to follow exposure to damp or cold, and leaves the patient open to future attacks, particularly with chill after perspiration, or muscular strain. The most efficient treatment is by hot or Turkish baths to promote perspiration, and the use of an aperient. Alkalies, belladonna, aconite, opium, etc., are beneficial. The severe pains may be allayed by hot fomentations with turpentine or laudanum; the common bread poultice is efficacious. The old-fashioned remedy, the application of a hot iron with brown paper interposed, is also good. Those subject to the complaint

should follow the rules for rheumatism: woollen clothing, good food with careful dieting, the avoidance of chill and damp.

Lumbar Puncture, minor surgical operation, the object of which is to remove some of the cerebro-spinal fluid which surrounds the spinal cord. The examination of the fluid is of great value for correct diagnosis of disease of the cord, while the reduction of pressure following the operation is of immediate therapeutic benefit. The patient is placed on his side in such a posture as to facilitate the insertion of the needle between the processes of the spine; the puncture is made at the lower termination of the spinal cord, below the second lumbar vertebra at the highest point of the iliac crests slightly to one side of the middle line; in this way damage to the spinal cord itself is avoided. The needle is pushed upwards and backwards through the ligaments of the spine, and the fluid will issue drop by drop from the canula if pressure is normal and healthy. It is carefully collected in a sterilised tube for complete subsequent examination. The operation has been performed in cases of epidemic and tuberculous cerebro-spinal meningitis and uræmia, to relieve intra-cranial pressure. The fluid should be perfectly clear, and microscopic examination should show the presence of few cells. If there is excess of cells the fluid will be more or less turbid. It must be tested for the amount of albumin and undergo careful bacteriological examination. In tuberculous and syphilitic diseases of the cord, mono-nucleated leucocytes will be found in excess, multi-nucleated cells in other forms of meningitis. The Wassermann test for syphilis can also be performed on the spinal fluid. The operation of L. P. has been proved of the greatest value in the study of the various forms of meningitis, bringing them within the realm of scientific treatment and control. The same operation affords a means of inducing spinal anaesthesia by the introduction of anaesthetics.

Lumber and Lumbering (cf. Swedish *lomra*, to roar, a frequentative of *luma*, to make a noise). Formerly the word *lumber* was applied to a pawnbroker's shop, being a variant of 'Lombard,' which was equivalent in meaning to pawnbroker, someone who accumulated discarded furniture, etc. The word, with its twofold meaning of rubbish and timber is probably associated with both these sources. The lumbering of wood for shipbuilding, building, and the manuf. of furniture, etc., is an important industry of N. America. It includes the felling of trees and cutting into logs, and the sawmilling of rough timber into beams, and the planing of these. Lumbering has long been an important industry in the U.S.A., and forests have been cut down so rapidly that at the present rate of consumption the whole supply may become exhausted in forty years' time. Lumbering is also a valuable primary industry in Canada, Newfoundland, Sweden, Finland, and other countries which possess large forest resources. See also CANADA, *Forestry and Lumbering*; FORESTRY. (See illustration, p. 596.)

Lumbricus, *see* EARTHWORMS.

Lumbumbashi, *see under* ELISABETHVILLE

Lumière, Louis (1862-1948), Fr pioneer of cinematography. He improved upon Edison's kinesiograph so as to obtain a hitherto unknown steadiness of his pictures when projected on a screen. Owing, however, to defective mechanism used in his apparatus for drawing the film through the projector, no more than 50 ft could be used at one showing, and L.'s method had soon to be abandoned. With his brother Auguste L. gave the first demonstration in London of 'living photographs' on February 20, 1896. Among these early films which were the prototypes of many

others. Some crystals exhibit L. on being warmed slightly, *e.g.* diamond, or as a result of friction due to rubbing or crushing, *e.g.* sugar.

Luminosity, state of emitting light. Intrinsic L. or brightness is the comparative light-emitting power of a shining body per unit area. Bodies may be self-luminous or luminous by reflected light, in the former case *incandescence* is usually due to a state of heat. The whole question concerns the effect of light rays on the retina of the eye, and a rough classification may be made into glowing or dull red, bright red, yellow, and white but the eye fails completely to make any approximation to scientific comparison.



(Canadian National Railways)

UNLOADING LOGS INTO A RIVER

others of their kind were 'Workers leaving the Lumière Factory,' 'The Gardener and the Horse,' and 'Arrival of a Train.'

Luminal, *see* PHENOBARBITONE.

Luminescence, property of emitting light without the simultaneous manifestation of heat. The most familiar instances are those of phosphorescence in decaying fish, the glow-worm, and fire-flies, and the 'phosphorescence' of the sea. Chemical action accounts for it in the case of phosphorus itself, oxidation taking place in air at ordinary temps. In the case of radium and electric discharges, disintegration of substances largely accounts for it (*see* X-RAYS), this occurring probably in the *aura*. In the case of quinine sulphate solutions fluorescence is due to emission of previously absorbed light; other substances exhibiting L. are the sulphides of calcium, barium, and strontium, used in the manuf. of luminous paints. These possess the power of storing up light rays of higher refrangibility.

judging, *e.g.* a surface to be only five times as bright as another ascertained by photometry to be 100 times as bright. The eye, unable to estimate difference of L., can recognise equal L. It can be shown that the intensity of illumination at any point of a surface held normally to the light from a point source varies inversely as the square of the distance. By so adjusting distances of two luminous objects that they give equal illumination on a surface, we arrive at their comparative Ls. There are, however, many attendant difficulties, *e.g.* colour and standard (but *see* PHOTOMETRY).

As a rule Ls. of gases or vapours are low, even with intense heat, high L. being due to incandescent solids. Bright flames owe their intensity to small particles of solid in an incandescent state, *e.g.* coal gas owes its luminous powers to carbon particles liberated chemically; if air be mixed as in the bunsen flame, though the heat is more intense, the brightness is altogether lost; the solid incandescent

mantle, however, becomes intensely luminous in the flame.

Luminous Paint. Substances with the power of luminescence have been incorporated in paint. Such paints do not give off enough light to illuminate their surroundings, but serve to render the object coated with them visible in the dark by the phosphorescent glow. The substances used are the sulphides of calcium, barium, and strontium, prepared by reduction of the sulphate with carbon. The earliest L. P. was 'Bologna phosphorus,' the sulphide of barium; Balmann's L. P. is another mixed sulphide preparation. The essential point about these substances is that they lose the property unless exposed periodically to sunlight or other strong actinic rays. The rays of light of higher refrangibility are stored and slowly emitted; an example of the dissipation of energy. By mixing an ordinary L. P. with a radioactive substance such as mesothorium, a L. P. is produced that does not need to be exposed to light. Such radioactive L. P. is largely used for illuminating watch and clock dials, etc.

Lumsden, Ernest (1851-1913), Scottish etcher and portrait painter and a Royal Scottish academician, b. in London. In his early years he worked with Frank Morley Fletcher and J. D. Batten on colour printing from blocks. Before the First World War his etchings were much in demand by both public and private collectors, and he exhibited portrait paintings regularly at the Edinburgh academy.

Lunacy in this article is used in its legal sense as representing all those aberrations from mental soundness which involve as a consequence certain disabilities in civil relations. (For the pathological side of the subject see under **INSANITY** and **MEDICAL JURISPRUDENCE**, especially as to the medical tests of L.) The term lunatic is derived from *luna*, the moon (from the supposed influence of the moon in causing mental disorder). It is notoriously difficult to state the legal conception of L. from the fact that different text writers adopt different classifications, sometimes opposing it to *idiot* or other forms of insanity, and sometimes including under the connotation practically all cases of lost memory. In general the Eng. law overrides pathological difficulties by defining lunatic as meaning and including 'every person of unsound mind, and every person being an idiot' (Lunatic Asylums Act, 1853, and Lunacy Act, 1890). This leaves the term idiot undefined, but for the most part *idiot* has been used to denote *dementia naturalis*, or a *naturalis*, i.e. congenital infirmity of mind, though some, e.g. Luff (*Forensic Medicine and Toxicology*), state that all grades of mental deficiency are comprised in the term *idiot*, from persons whose mental condition resembles a mild form of imbecility to those whose intelligence is so low that they lead but an automatic existence. No less confusing is the legal use of the term *unsound mind* which in many Acts is used indis-

criminately to mean *non compos mentis* (i.e. not master of one's senses), congenital L. in all its variations of signification, and permanent 'adventitious' insanity, *idiot*, at all events, is a term of less shifting import than all the others; it is derived from the Gk. *idiōs*, a private person, or one who has no public office, and *idiōs*, an ignorant or illiterate person, and necessarily implied and still implies incapacity; whereas the term 'L.' is by no means a synonym for incapacity, and does not consistently imply a permanent state. Another type of mental disability is that called *imbecility*, which is legally defined as a weakness of mind between the limits of absolute *idiot* on the one hand, and of perfect capacity on the other. The phrase *moral insanity* is noticed in **CRIMINOLOGY**.

For all practical purposes of civil relationship it is unnecessary to attempt a further differentiation or a more scientific classification of these mutable terms, because the law avoids definitions for the most part, and merely applies various tests to determine responsibility and capacity, and then, according to the result of its inquiry, attaches or removes disabilities, as, for example, disability to make a will or enter into a binding contract.

Formerly the legal tests of *idiot*, or *insanity* generally, were of the crudest kind. One test was the capacity of the alleged idiot to count twenty pence, tell his age, or who were his father and mother. This old test of *idiot* is grotesque enough when judged by the light of modern mental science; for it is a commonplace among alienists that there are to be found among idiots (generally congenital) special instances of extraordinary memory, and great powers of calculation (*idiots savants*). Then later the law acted on Hume's view that the question whether a person was master of his senses was one of fact for a jury. At the present day commissions in L. do not venture to declare a person a lunatic unless he is unable to appreciate the nature and to pass a rational judgment upon the results of the particular act which is the subject of judicial consideration. In one direction law goes further than medicine, because it consistently infers irresponsibility on the ground of insanity from mere ignorance of the nature and quality of a particular act, while medicine recognises that in certain cases a person may, from disordered feelings, over which his rational faculty has no control, be unable to refrain from a particular act, although he understands perfectly its moral nature. (For the test of criminal responsibility and the relation of L. to crime generally in Eng. law see under **CRIMINAL LAW**, and also **CRIMINOLOGY**.)

The Lunacy Acts, 1890-1930, may be said to make provision, firstly for the care, housing, and custody of persons of unsound mind, and secondly for the administration of their estate. It should be noted that in practice and statutory form the terms *lunatic*, *asylum*, *pauper*, and *workhouse* have been replaced by the terms *person of unsound mind*, *mental hospital*, *state-aided patient*, and *poor*

law institution. So far as the question of care, housing, and custody are dealt with under these Acts, duties devolve (*inter alia*) upon the Court of Protection (previously Board of Control); the Lord Chancellor's Visitors or Chancery Visitors (being three medical and one legal); and visiting committees of co. and bor. mental hospitals (who are appointed by the local authorities); visitors of those licensed houses which are not within the immediate jurisdiction of the Court of Protection (they are appointed by the justices of every co. and quarter sessions bor.); and the justices of the peace, some of whom are for the purposes of the Acts constituted as judicial authorities.

Visitation and Inspection.—On the occasion of these visits patients may be personally examined as to their mental condition and general welfare. Such personal visitation is compulsory upon the visitors at the time of some of their statutory visits. The inspection of the sev. institutions in all their depts., including questions as to diet and the various forms of medical treatment, are included in the duties of the visitors. The Chancery Visitors' duties mainly rest with the visitation of all lunatics *so found*, and of such other persons of unsound mind for whom receivers have been appointed, and who have been placed on the list for such visitation by the master in L. In addition to the above instances of statutory visitation there are also provisions for the visitation of rate-aided patients by the public local authority and their medical officer.

Housing.—As to the housing of the insane, there are three distinct types of mental hospitals; co. and bor. asylums, registered hospitals, and the metropolitan and prov. licensed houses. The Acts contain extensive legislation for the regulation and management of these institutions.

Custody and Detention.—Elaborate measures are incorporated in the Acts to ensure, as far as possible, that no person, whose mental state does not warrant reception or detention in a mental hospital, either for his own good or the good of the public, can have his rights of liberty infringed.

Certification.—As to private patients (excepting in the cases of lunatics *so found*, who may be detained by the order of the committee of the person, or in cases of extreme urgency demanding immediate supervision) the prin. Act (*i.e.* the Act of 1890) requires the intervention of a judicial authority, whose order for detention is obtained on petition supported by two medical certificates. The petition is, however, dispensed with in the case of a person 'not a pauper' and 'not under proper care and control.' The cases of urgency referred to may be dealt with by an urgency order signed by a relative or friend or other person, accompanied by a medical certificate containing a statement of the reasons for the employment of such methods. This order, however, only covers seven days' detention, and before or at the end of that period has to be super-

seded by the order of a judicial authority if further detention is deemed to be necessary. The rate-aided patients cannot be received or detained, other than in poor law (now national assistance) institutions, except upon the order of a justice of the peace. This latter is called a summary reception order and must be supported by one medical certificate, differentiating as between the private and rate-aided classes in two respects, *i.e.* omitting the necessity for a petition and accepting one medical certificate in place of two. The Acts also make provision for sending reports at various fixed periods relating to the mental and physical conditions of patients after their admission into institutions. Reports and certificates in one form or another are obligatory, whether the patients belong to the private or the rate-aided class, and extend also to persons who are lunatics *so found*.

Discharge.—Discharge may be brought about in the case of private patients by the order of the petitioner, *i.e.* the person upon whose petition the reception order was granted. In the absence, for any cause, of such petitioner, other persons may be substituted to exercise the power. Rate-aided patients in the co. and bor. mental hospitals may be discharged on the authority of the visitors of such institutions, whilst power resides with the Court of Protection to order discharge of patients, under various conditions laid down in the prin. Act. The Acts nowhere give direct authority to the medical superintendent of a mental hospital, registered hospital, or a licensed house to order the discharge of any patient detained there. In the cases, however, of recovery of a patient in a registered hospital or licensed house, after seven days' notice thereof to the person on whose petition the reception order was granted, the patient shall forthwith be discharged, unless in the meantime the petitioner or other responsible person shall have effected the removal. In cases where the petitioner or other substituted person orders the discharge of a patient who is deemed by the medical officer of the institution to be dangerous and unfit to be out at large, and a medical certificate to that effect is given, together with the grounds thereof, such patient shall not be discharged unless the Court of Protection or Visitors grant their assent.

Voluntary Boarders.—Voluntary patients can be admitted for treatment in the registered hospitals and licensed houses, and there are statutory provisions with respect to their admission and detention under the prin. Act where they are referred to as boarders. Generally speaking there is no power to receive boarders into the co. or bor. mental hospitals. The application to be admitted as a boarder must be voluntary, and in the case of licensed houses admission must be sanctioned by the Court of Protection or, where such house is not within their immediate jurisdiction, by two of the visiting or licensing justices. For a period of twenty-four hours their detention may be compulsory, but at the end of that time, after the boarder's written notice to quit, further

detention is illegal unless steps are taken for certification. The admission of a voluntary boarder into a registered hospital does not require the consent of the Court of Protection, but it is necessary to send to that body a notice of admission of a boarder both into that class of institution as well as into a licensed house.

The Mental Treatment Act, 1930.—This Act provides for the treatment of mental illness in its preliminary stages by enabling patients to be received, either voluntarily or on the application of the husband or wife or a relative, for temporary treatment without certification either in a mental hospital or in any hospital, nursing home, or place approved by the Court of Protection or into the charge as a single patient of a person so approved. Before the passing of this Act the law was that the consent of two, later one, commissioners or justices had to be obtained in each case where a voluntary patient wished to be admitted to a licensed house. Now this consent is rendered unnecessary, though the Court of Protection must have approved the institution and there are stringent provisions as to notice of reception, death, and departure being sent forthwith to the court.

Criminal Lunatics.—Under the warrant of the home secretary criminal lunatics may be detained during the royal pleasure in criminal lunatic asylums.

Estates of Persons of Unsound Mind.—Under section 171 of the Law of Property Act, 1925, the court has power to settle the beneficial interest of a lunatic or defective. The Lunacy Act, 1922, provides for the cases where lunatics are trustees or are mortgagees jointly with other persons.

Contract and Torts, Marriage and Divorce of Lunatics.—Simple contracts (q.v.) of persons of unsound mind are voidable. They are binding upon such person or his representatives unless he or someone on his behalf can prove that the other party to the contract knew he was so insane as not to know what he was doing. In order to deprive the other party of his rights on the ground of notice of the person's state of mind, something more than general reputation or a casual intimation that the other is out of his mind is requisite. A person of unsound mind may make a valid contract during a lucid interval, but it is for the other contracting party to prove the existence of a lucid interval. But the property of a lunatic (whether he be found so or not) is bound to recoup the reasonable cost of necessities supplied to the lunatic, and it is immaterial whether the person supplying the necessities knew or did not know of the l. A lunatic or his estate is liable for necessities supplied to his wife by any one who was ignorant of his state of mind, and to whom the lunatic when of sound mind had held out his wife as his agent. As to the question of the voidability of specialty contracts, a person found by inquisition to be a lunatic cannot execute a valid deed disposing of his property, not even during a lucid interval, unless and until the inquisition is annulled.

Apart from statute unsoundness of

mind is no bar to a valid marriage if the alleged lunatic knew at the time of marriage that he was being married, and fully appreciated at the time the duties and responsibilities which the contract of marriage creates; and insanity supervening after marriage is not a ground for divorce or judicial separation unless it also amounts to cruelty, when it might be a ground for separation, or becomes incurable; and in the case of a petition for divorce on this ground the respondent must have been continuously under treatment and care for at least five years immediately preceding the petition (see *DIVORCE*). A lunatic husband or wife (insane when married) may, on recovering reason, petition for nullity. The sane spouse may also petition for nullity at any time, but the burden of proof of the insanity of the other spouse at the date of marriage is upon the petitioner. The court does not usually attempt to gauge the extent of the mental derangement, but confines itself to the broad issue of the health or disease of the mind at the time of the ceremony (W. Lakey and D. P. Kees, *Law and Practice in Divorce and Matrimonial Causes*, 13th ed., 1946). It seems that under a statute of George II. marriages of lunatics so found by inquisition are void without the necessity of nullity proceedings, though the point is not free from doubt. L. is no answer to a petition for restitution of conjugal rights. It is a good answer to a petition for divorce on the ground of adultery, or other matrimonial offence, if the respondent were of such unsound mind as not to be aware of the nature and consequences of his offence. The will of a person alleged to be of unsound mind at the time of making it cannot be attacked if the testator at the time of executing the will had a sufficiently good memory to recall the nature and amount of his property and the persons who might have moral claims upon it, and further, if his judgment and will-power were not so subject to the influence of morbid ideas or external control as to be inadequate to balancing the relative strength of those claims. *Moral insanity* (see *CRIMINOLOGY*) is not sufficient to invalidate a will.

The general principle in the law of torts (civil wrongs apart from breach of contract) is that a lunatic is liable to the same extent as any other person, for intention and state of mind are hardly germane to questions of tortious liability. But, as Sir Frederick Pollock points out, a lunatic would hardly be held liable in damages for 'incoherent words of vituperation.'

The control of the person and property of lunatics belongs of right to the Crown (q.v.), a right which was confirmed by the statute *De Prærogativa Regis* of 1324. Formerly the king took the profits of the estates of idiots for his own use, and acted as a trustee for the estates of lunatics (i.e. *non compos*). But for at least three centuries this royal jurisdiction has been delegated to various officials or bodies like the lord chancellor (q.v.), the old court of wards, and the court of chancery (q.v.), and is now vested in the

masters in L. Masters in L. are barristers of ten years' standing, who are empowered to hold inquisitions as to the state of mind of a person alleged by near relatives, executors, or certain other persons to be lunatic. A petition for an inquisition must be backed up by medical affidavits, stating the facts relied upon to prove the mental incapacity. The L. laws are administered by a Court of Protection, comprising a chairman, four senior commissioners, a number of other commissioners and inspectors. The masters have power also to make all necessary or consequential orders for dealing with the persons and estates of lunatics so found by inquisition. Under the Lunacy Act, 1890, they also have wide summary powers of management and administration over the property of lunatics not so found, such summary powers being exercisable exclusively for the benefit of the lunatic.

Statistics.—The following table gives the number of notified insane persons in England and Wales, Scotland, and N. Ireland, so far as such information is available:

Year	Institutions	Private Cure	Total	Per 10,000 of Pop.
<i>England and Wales</i>				
1914	132,201	5854	138,055	37
1936	149,549	4222	153,771	38
1937	151,526	3996	155,522	38
1938	153,471	3882	157,353	38
1939	154,888	3835	158,723	39
<i>Scotland</i>				
1914	15,801	2913	18,714	40
1936	18,440	1257	19,697	40
1937	19,395	1201	19,596	39
1938	18,508	1144	19,652	39
1939	18,554	1087	19,641	39
<i>Northern Ireland</i>				
1914	—	—	4939	40
1936	5327	20	5347	41
1937	5444	22	5466	43
1938	5541	24	5565	43
1939	5617	31	5648	44

(The above figures include persons in state criminal lunatic asylums, the average number per annum being about 800.)

The total number of mental patients in England and Wales (as at Jun. 1, 1948) was 145,772 (private patients, 13,206; rate-aided, 131,652; Broadmoor patients, 914). Of this total the numbers in the various hospitals, homes, etc., were as follows: co. and bor. mental hospitals, 128,817; in other types of premises run by local authorities, 138; registered hospitals, 2429; licensed houses in the metropolitan area, 754; prov. licensed houses, 1624; nursing homes, 54; naval and military hospitals, 206; Broadmoor, 830; public assistance institutions and general public health hostels, 8893; private single care, 91; and on outdoor relief, 2036. Of the Broadmoor patients given in the first figure above, some 84

were in co. mental hospitals. (After July 1, 1948, all mental patients came under the national health service. The above classification has therefore now disappeared.) See also MENTAL DEFICIENCY ACTS.

See G. E. Mills and A. H. R. W. Poyser, *Lunacy Practice* (1934); N. A. Heywood and A. S. Massey, *Lunacy Practice* (6th ed., by D. G. Hunt and J. F. Phillips), 1939.

Lunar Apennines, see APENNINES (LUNAR).

Lunar Nutation, see under NUTATION.

Lunar Theory, see under MOON.

Lunawada, small state of Bombay prov., India. The rulers of L. belong to the historic Solanki clan of Rajputs, claiming descent from the famous Sidhraj Jaysinh of Anhilwad (Gujarat). Besides having fine stretches of good agric. land, L. contains a large forest area yielding rich timber. The cap., L., is a fortified tn., 65 m. E. of Ahmedabad. Area 388 sq. m. Pop. 105,400.

Lund, tn. in the lon and 12 m. N.E. of Malmö, Sweden, was the cap. of Denmark in the twelfth century, and reunited with Sweden, 1658. It contains a fine eleventh-century cathedral, observatory, zoological museum, botanical gardens, and a univ. founded in 1668. The industries are sugar refining, furniture making, woollen manufs., and tanning. Pop. 31,000.

Lunda, ter. in Central Africa, situated S. of the Belgian Congo, and politically belonging partly to Belgian Congo and partly to Portugal. It is watered by the Kasai, Lulua, and Lubilash, and inhabited by the Kalunda, a tribe of Bantus. The Bantu supreme chief is called Muata Yamvo, who shares his power with the Lukokeshia, both these rulers being elected by the nobility. The site of the cap., called Musumba, changes at the death of the Muata Yamvo. A Portuguese company was formed in 1917 to mine the diamond deposits located in the L. dist. in the N.E. corner of Angola. Pop. (estimated) 2,000,000.

Lundy, Benjamin (1789-1839), Amer. abolitionist, b. at Handwick, New Jersey, of Quaker parentage. He contributed to the *Philanthropist*, and was the first to establish anti-slavery periodicals.

Lundy Island, in the Bristol Channel, England, 12 m. N.W. of Hartland Point; has an area of 1051 ac., most of which is pasture land. It contains a lighthouse built in 1820, and remains of an anc. castle and round towers, and is a Royal Naval signal station with telephone connection with Barnstaple. It was a stronghold of smugglers. Pop. about 50. See monograph by J. R. Chanter, 1877, and P. T. Eliottson and V. Barlow, *Tempestuous Isle*, 1949.

Lüneburg, tn. of Hanover, Germany. 31 m. S.E. of Hamburg, on the Ilmenau. There is a fine old tn. hall, the fourteenth-century church of St. John, and that of St. Michael, fifteenth century. L. was a member of the Hanseatic League. The chief manufs. before the Second World War were textiles, carpets, chemicals, and it has iron works and gypsum quarries.

It was at F.-M. Montgomery's headquarters on L. Heath that Doenitz (*q.v.*) and others came to surrender unconditionally all the Ger. forces in Holland, N.W. Germany, and Denmark. Pop. about 30,000. See WESTERN FRONT IN SECOND WORLD WAR. *German Collapse in Northern Germany.—Himmler's offer of surrender.*

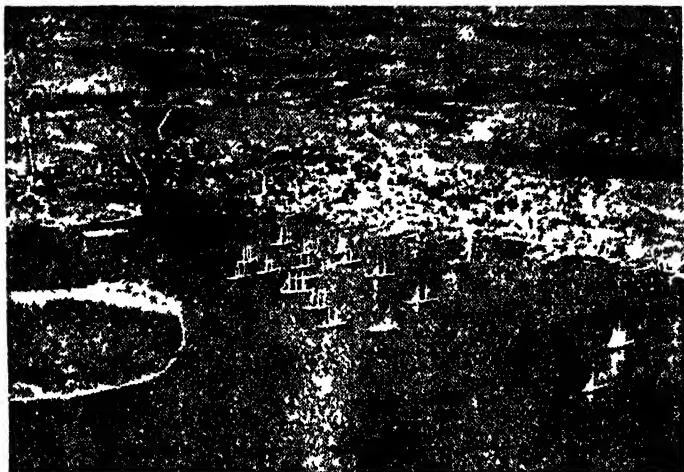
Lünen, industrial tn. of Westphalia, Germany, 8 m. N. of Dortmund. Pop. 23,000.

Lunenburg, seaport tn., cap. of L. co., Nova Scotia, Canada, 45 m. S.W. of Halifax. The fishing fleets start from here for Labrador. It has a large trade with the W. Indies, and has shipyards,

China, near the borders of Tongking. It is on one of the main trade routes, but its trade is of no great importance to-day owing to the absence of railroad communications. Pop. 14,000.

Lungkow, port of China, in the Laitchow Bight on the coast immediately opposite the mouth of the Hwang-Ho. Pop. 11,000.

Lungs. The L. are the greyish, spongy, irregularly pyramidal or conical elastic organs of respiration, occupying the greater portion of the thorax, the remaining central portion of this cavity being termed the *mediastinum*, and containing the heart, great vessels, roots of L., etc. Each organ has an apex extending into the root of the neck just above the first rib, and a



LUNENBURG, NOVA SCOTIA

Canadian Air Boats

iron foundries, etc. Pop. 35,000.

Lunette: 1. In fortification, a redan with lateral wings and gorge generally open, built for the protection of roads and bridges. 2. (Fr. *lune*, moon), in architecture a crescent-shaped or semicircular aperture, made so as to admit the light or the sound of bells. The word is also applied to a semicircular pane, filled in with decorative carving.

Lunéville, tn. in the dept. of Meurthe-et-Moselle, France 15 m. E S.E. of Nancy. It is a military depot. The peace of L. was signed here in 1801 between Germany and Napoleon I. The industries are woollen and cotton spinning and tanning and manufs. of gloves, porcelain, and linen; there are large motor and railway engineering works. The tn. was a centre of severe fighting during the Fr. invasion of Lorraine under Castelnau in 1914. L. was captured by Amer. forces on Sept. 19, 1944. Pop. 20,300.

Lungchau, tn. in the prov. of Kwangsi,

concave base resting on the diaphragm. The outer surface is smooth and convex, and the inner is concave and in part adapted to the pericardium. The posterior border fitting into the deep concavity on either side of the spinal column is broad and rounded, while the anterior edge is thin and overlaps the front of the pericardium. Each lung is enclosed in its serous membrane, the *pleura*, a double bag, the inner closely covering the lung and the outer forming a lining to the cavity of the chest. Between the two surfaces of the pleura there is a small amount of lubricatory fluid as in the case of the pericardium. The bronchus (*q.v.*) and the great vessels join the lung at its root, which is situated upon the inner surface, somewhat above the middle of the lung and towards its posterior border. Within the lung the arterial trunks run behind the bronchial branches, and the venous trunks are situated in front.

Dimensions, etc.—The right lung is a

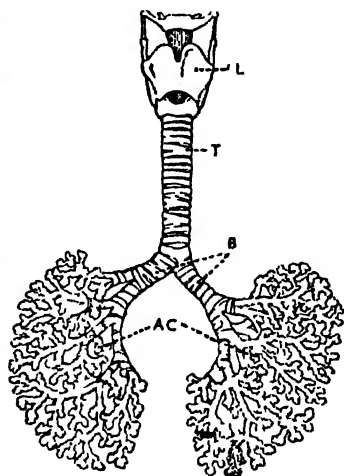
little thicker and heavier than the left, but is almost an inch shorter owing to the curvature of the diaphragm in accommodation of the liver. The organs vary in weight and size according to the amount of blood they may happen to contain. In general the right lung weighs about 22 oz. in the adult male, and the left weighs about 20 oz. The totals are less in the case of the female, both absolutely and also relatively, for the lung weight is about $\frac{1}{10}$ of the body-weight in the male and about $\frac{1}{12}$ in the female.

Properties and Structure.—The mass of the organ is of a light, porous, spongy texture, and when healthy is buoyant in water, hence the popular name of 'lights' applied to the L. When fully distended the sp. gr. of the organ is only 0.126, but rises to 1.056 on being entirely deprived of air (Krause). The pulmonary tissue is endowed with great elasticity, in consequence of which the L. collapse to about one-third of their bulk when the thorax is opened. The right lung is divided into three lobes, one of which is less distinct; the left is divided into two lobes. The surface of each lung is marked out into polygonal spaces, which are the bases of the lobules, and the substance of the organs is made up of lobules united by connective tissue (*interlobular septa*), which is continuous with the sub-pleural and peribronchial connective tissues. Each lobule is a complete system in itself, consisting of (a) a small bronchial branch; (b) artery, capillaries, and vein; (c) nerves; (d) lymphatics.

Air Circulation.—The L. may be regarded as a many-chambered elastic bag placed in the air-tight thorax and having a communication with the exterior only by means of the trachea (windpipe). Atmospheric pressure acting down the trachea keeps the L. so far stretched that the two pleural layers are always in apposition, and together with the heart and great blood-vessels they completely fill the thorax. The air passes on into and through the bronchi, which somewhat resemble the trachea in structure; the current then continues through the various subdivisions of bronchia, bronchioles, and bronchial tubes, which, diverging in all directions, never anastomose, but terminate separately. After a certain stage of subdivision (diameter about 1 mm.) the walls of the bronchial tubes become beaded with blind, cup-shaped pouches termed *air-cells* or *alveoli*, the walls of which consist of a thin membrane of areolar and elastic tissue lined by thin, transparent, flat cells. The cells are about $\frac{1}{2}$ in. in diameter, and are said to number upwards of 700,000,000 and to present a very great surface to the air. It is from the air in these cells that the blood obtains a fresh supply of oxygen and gives up its carbon dioxide, for between adjacent alveoli there is a layer of thin-walled capillaries, the vessels twisting first to one side and then to the other of the septa between the alveoli.

Blood-vessels.—The branches of the pulmonary artery accompany the bronchial tubes, but in their remote ramifica-

tions they subdivide more frequently. They are independent of one another, though the corresponding veins frequently anastomose. The terminal arterial branches are about $\frac{1}{10}$ in. in diameter, and from them arise the capillaries $\frac{1}{100}$ in. in diameter, so closely meshed that their interspaces are even narrower than the vessels. The radicles of the pulmonary veins arise from the capillary network of the alveoli and from that of the smaller bronchial tubes; the fusion of these and other venous vessels gives rise to the pulmonary veins, which leave the roots of the L. and return the blood to the left auricle of the heart. The pulmonary



LUNGS: THE AIR PASSAGES
L, larynx; T, trachea; B, bronchi;
AC, air cells.

vessels differ from the systematic in regard to their contents; the arteries in the former circulation carry dark red deoxygenated blood, while the veins carry bright red oxygenated blood. The pulmonary veins have no valves, nor are they more capacious than their corresponding arteries. Apart from the circulation mentioned above, there are also smaller bronchial arteries springing from the aorta which nourish the bronchi, lymphatic glands, and connective tissue of the L., while bronchial veins return much of this blood to the systematic circulation, though some small amount of it is returned by the pulmonary veins.

Lymphatics.—Part of the numerous lymphatics of the L. takes origin from lymphatic capillaries in the interlobular septa, others near the surface of the L. come into connection with the subpleural lymphatic plexus. Both sets emerge at the roots of the L., where they enter the bronchial glands, passing thence from the left lung into the thoracic duct, and from

the right lung into the right lymphatic trunk. Foreign particles caught by the mucus in the bronchial passages often find their way through the epithelium into the lymphatics, and may finally reach the bronchial glands. Particles of carbon are frequently found embedded in the lymphatic glands of those engaged in coal-mining.

Nerves.—The nerves of the L. come from the anterior and posterior plexuses, which are formed chiefly by branches from the pneumogastric or vagus nerve, joined by others from the sympathetic system. They enter the L. and follow the distribution of the vessels and bronchi, small ganglia being situated in the walls of the latter. In the lower vertebrates (frog, newt) the nerves are chiefly distributed to a layer of plain muscular tissue, which is everywhere found taking part in the composition of the relatively simple pulmonary wall (Stirling), but in mammals their exact mode of termination is not clear. Impulses pass from the L. along the pneumogastric and along other nerves to a respiratory centre in the medulla, and from this centre efferent impulses proceed along various nerves, and so bring about respiratory movements.

Condition in the Fetus and Change after Birth.—In the fetus the L. contain no air, and consequently sink in water. After birth they undergo rapid and remarkable changes consequent on the commencement of respiration. The chief changes are given below. In a still-born child or in a full-period fetus the L. lie packed at the back of the thorax; subsequent respiration in the latter case causes the L. to fill the pleural portions of the thoracic cavity. The introduction of air and of an increased quantity of blood converts their tissue from a compact, heavy, yellow-pink substance into a loose, light, rosy-pink, spongy material, resembling blood froth. These changes occur first at the anterior borders, and in the right lung rather earlier than in the left. The absolute weight, which has been increasing gradually during the intra-uterine period, undergoes a marked increase at birth, amounting to more than one-third of its previous weight owing to the increased amount of blood. The relative weight usually increases from about $\frac{1}{4}$ of the previous body-weight to $\frac{1}{2}$, a proportion which suffers no material change during later life. The sp. gr. is, as might be expected, materially reduced on the commencement of breathing.

Diseases, etc.—The L. are particularly subject to disease. Pneumonia, which may attack one lung or both, frequently arises as a secondary complication in association with other diseases. It is due to inflammation of the lung tissue, and is generally accompanied by pleurisy or inflammation of the pleura. Wounds of the thorax caused by piercing implements, or even by the fractured ends of broken ribs, may allow air to enter between the pleura. This is termed *pneumothorax*. The natural elasticity of the L., coupled with the atmospheric pressure acting on its exterior, leads to its contraction and to a consequent difficulty of inspiration.

Artificial pneumothorax is now much used as a method of collapsing the L. in the treatment of pulmonary tuberculosis (phthisis). *Empyema* is the presence of an abscess in the pleural space between the L. and the chest, and is usually caused by the micro-organisms of pneumonia, typhoid fever, etc. An opening of the chest space and draining away of the contained fluid is the usual surgical treatment. Other disorders may require the removal of portions of the lung tissue itself. *Bronchiectasis* is a condition following chronic bronchitis or pneumonia; the bronchioles become expanded here and there into large cavities filled with infected mucus. Treatment follows the same lines as for bronchitis and phthisis.

See ALSO ARTIFICIAL RESPIRATION; BREATHING.

Lungworm, see under ROUNDWORM.
Lungwort, lichen growing on tree trunks in damp sub-alpine regions. Sometimes prescribed in pulmonary diseases, like Iceland moss. Also the name of a boraginaceous perennial herb, the narrow-leaved L. or Jerusalem crowslip (*Pulmonaria officinalis*), with lance-shaped leaves and pink funnel-shaped flowers.

Lupercalia, yearly festival of purification, held at Rome on Feb. 15, in honour of Lyncæus Pan (or Faunus) whose worship was introduced by Evander, the Arcadian, or, as some think, of the wolf that gave suck to Romulus and Remus. It was held at the foot of the Palatine Hill, near the cave of Lupercus in which was preserved a bronze statue of a wolf. The officiating priests, called *Luperci*, sacrificed goats and dogs with the blood of which they touched the foreheads of two youths. The blood was then wiped away with wool dipped in milk, and the youths were obliged to smile during the whole process. The skins of the sacrificial victims were then cut into long lashes, called *februa* (cf. Lat. *februare*, to purify); with these the priests ran along the walls of the city, slashing any one they met as an act of purification. Women were particularly eager to receive a cut, which was believed to remove barrenness. The rite was discontinued in A.D. 494 when Gelasius I. replaced it by the festival of purification of the Blessed Virgin Mary on Feb. 2.

Lupescu, Magda (b. ? 1901), Rumanian adventuress, third wife of ex-king Charles (Carol) II. of Rumania; b. at Iasi (Jassy), daughter of a poor Jewish watchmaker and of an Austrian Catholic mother. Her original name is said to have been Wolff. Educated at a convent, she married an army officer, whom she divorced in 1921 when she first met Carol, who, in the same year, married Helen, daughter of King Constantine of Greece. In 1925 Carol renounced the succession and left Bucharest for Paris, accompanied by his mistress, L. From 1925 to 1930 the couple lived in Neuilly. In 1930 the peasant leader, Maniu, effected a *coup d'état* which deprived Michael, Carol's son by Queen Helen) of the throne and brought Carol himself back as Rumania's dictator king. L. then returned to Rumania or was smuggled back and kept in a mt. cottage

for some time before her presence was admitted. When Maulu discovered the truth he broke with Carol for ever. But although L. lived outside the palace, either at the mt. cottage near Jannissa or in her luxury flat in Alea Vulpaoh, she exercised strong political influence, putting her friends in key positions in the civil service and the army and is even said to have had her own secret service. Yet all the time she kept discreetly in the background. The opposition party pub. pamphlets against her, denounced her, and attributed the troubles of their country to her, the more so as her Jewish blood made her a target for anti-Semitism. But in 1940, when Antonescu's Iron Guard brought the country under the Ger. wing, Carol had to flee and Mme L. escaped with him, first to Spain, then Portugal, then Cuba (1941), finally settling in Brazil (1945). On July 8, 1947, it was reported that Carol had just then married Mme L.—who was stated to be dying of anemia—and that she had received the official title of Helena, princess of Rumania. See also CHARLES (CAROL) II.

Lupiae, see LECCE.

Lupino, name of a family of actors, including George (1853–1932), Brit. comedian of It. descent; his son Stanley (1895–1942), b. in London; actor, playwright, and producer of stage and screen plays; Ida (b. 1916), daughter of Stanley L., actress on Brit. stage, excelling in clear-cut characterisations as in *The Hard Way*, and in motion pictures at Hollywood; Barry (b. 1884), actor, pantomimist, and dancer, son of George L., studied dancing under Espinosa and trained in pantomime by his father; Wallace (b. 1897), son of Henry Charles L., dancer, actor, and screen artist; one of his chief parts was *Percheater in Me and My Girl*.

Lupinus, or Lupin (from *lupus*, wolf), fanciful name to indicate the destructive nature of this plant in overrunning land. Almost any soil suits. The following are the best varieties: *Arborea*, the tree lupin, a species of hardy evergreen with purple and yellow flowers (5 to 6 ft. high); *Snow Queen*, a white variety; *Hartwegi*, blue and white (2 ft.); *Hybridus Altracoccineus*, scarlet with white tips; others are *Myabilis*, *Nanus*, *Polyphyllus* (the common lupin, native to N. America), *albus*, *Purple King*, and *Somerset*. It belongs to the pea family, Leguminosae, and is closely related to the *Genista* and *Laburnum*.

Lupus, tubercular disease of the skin. The ordinary form is a slowly progressive and destructive affection of the skin, usually commencing in childhood, and has a predilection for the face, when it is most possibly due to transference from a consumptive by kissing. It is very disfiguring and hence the name L. (wolf). The modern treatment is by X-rays, radium, or ultra-violet light (Finsen's lamp). *L. Erythema* is a different disease, and probably not tubercular. It attacks old people, and consists of raised red spots and patches on the face, giving rise finally to the 'butterfly patch'. This disease is more easily cured than ordinary L.

Luray Cavern, in Page co., Virginia, U.S.A., near Luray vil., has one of the finest displays of stalactites and stalagmites in the world. It is divided into sev. chambers covered with formations of various colours, and fantastic shapes. It is lighted by electricity and much frequented by tourists.

Lurcher, cross between a collie and a greyhound, used by poachers on account of its speed and sagacity. It has very keen scent, a watchful ear, and a stealthy tread; when roused it can be very dangerous, and can run as fast as a hare.

Lurgan, tn. in co. Armagh, N. Ireland, 20 m. S.W. of Belfast. It is the centre of an agric. dist. and carries on important manufs. of lawn, cambric, and damask. Pop. 13,800.

Luria, or Loria, Isaac Ben Solomon (1534–72), Jewish mystic, one of the 'Five Sages' of the sixteenth century, b. in Jerusalem. He began life as a spice merchant in Alexandria, but was so much influenced by the *Zohar* of Moses de Leon, that he became a visionary, and propagated his mystic doctrines among a large company of disciples. His teaching, as recorded by his biographer, Hayim Vital, had a lasting influence on Talmud dogma.

Luristan, mountainous prov. on the W. frontier of Persia, crossed by part of the plateau of Iran, inhabited by numerous tribes, chiefly Lurio. Area 15,000 sq. m. Pop. 350,000. Between 1929 and 1932 important archeological finds were made in L. These included vessels and ornaments covering the period 2600 B.C. to A.D. 800.

Luriet, see LORLET.

Lusaka, tn. of N. Rhodesia. It is on the railway about 30 m. N. of the Kafue R., and replaced Livingstone, on May 28, 1935, as the cap. of N. Rhodesia.

Lusatia (Ger. *Lausitz*), dist. in Germany, comprising Upper and Lower L., taking its name from the Lusitzi, a Slavonic tribe. During the fourteenth century the country was possessed by the Emperor Charles IV., king of Bohemia, and in 1469 it fell into the hands of Matthias Corvinus, king of Hungary. In 1490 it was regained by Bohemia, which ceded it to Saxony by the treaty of Prague (1635). In 1815 most of L. was transferred to Prussia with the exception of Bautzen, and 900 sq. m. of Upper L. which were retained by Saxony.

Luscinus, see FABRICIUS CAIUS.

Lushale, warlike tribe of mountaineers, who inhabit the Lushal Hills of Asumu. This dist. was formerly occupied by Kukis. The L. number about 82,000.

Lu-Shun-Kau, see PORT ANTHUR.

Lusladas, or Lusladi, patriotic poem written by Luis de Camoens (q.v.).

Lusignan, tn. in the dept. of Vienne, on the Vonne, France, 15 m. S.W. of Poitiers. It has a fine eleventh-century church. One branch of the L. family were rulers of Jerusalem and Cyprus, and from the Fr. branch many distinguished families claim descent. Pop. 3000.

Lusitania, one of the three provs. into which Augustus divided Hispania, anot. Spain, the two others being Tarraconensis and Betica. L. was called after the tribe

Lusitani, and in extent corresponded very closely to modern Portugal. The Rom. seat of gov. was Augusta Emerita (Merida). See T. Mommsen, *Provinces of the Roman Empire* (Eng. trans.), 1886.

'Lusitania,' Cunard liner, sunk without warning by a Ger. submarine on May 7, 1915. The L. was launched at Clydebank in June 1906; was 785 ft. long, 88 ft. wide, and had a displacement of 40,000 tons. She had accommodation capacity for 3000 passengers, and during a crossing of the Atlantic, in March 1914, covered 618 knots in twenty-four hours. At the time she was sunk she was on a voyage from New York to Liverpool. Before she sailed the Gers. had inserted advertisements in Amer. papers warning people against sailing. This action was much resented by Amers., and no fewer than 218 sailed in the ship. The torpedo struck her when she was off the Old Head of Kinsale, and she sank within forty-five minutes. Of 1255 passengers and 651 crew, 1198, including 124 Amers., were drowned or killed. The action caused anti-Ger. riots in London's E. End, and the greatest indignation in America, but Germany, in a note to her embassy at Washington, dated May 10, 1915, gave various unsatisfactory explanations, and even struck a medal to commemorate the sinking incident. This elicited a strong reply from President Woodrow Wilson, who condemned the action in the most emphatic language. It is incontestable that the sinking of the L. had a great influence upon America's decision to enter the First World War on the side of the Allies.

Lussac, Joseph Louis Gay-, see GAY-LUSSAC.

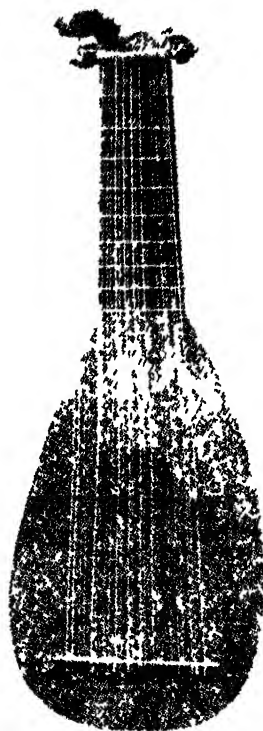
Lussin, or Lossin, is. of Dalmatia, Yugoslavia, formerly of Austria, in the gulf of Quarnero, and separated by the channel of Ossero from Cherso. The chief tns. are L. Grande on the E., containing a Venetian palace, and L. Piccolo, the chief port of the Quarnero Is. and a popular pleasure resort. Pop. 12,000.

Lustré, characteristic appearance of many substances in ordinary light, due to the intricate interworking of transparency, translucency, reflection, refraction, and diffraction, chiefly at the surface of the substances. For example, the L. of pearl is largely due to the diffraction of light. Practically all metals have what is termed metallic l., probably due chiefly to reflection combined with refraction of light partially absorbed in surface crystalline layers and reflected back again. In the case of crystals and precious stones refraction plays a larger part. The whole phenomenon is due to interference with incident light rays by the surface and surface layers of the substance before finally reflecting them.

The term is used also for pottery covered with an iridescent glaze: silver and golden copper types are produced, and a mother-of-pearl glaze is a feature of Belleek (q.v.) ware.

Lustrum (Lat. *luere*, to purify), sacrifice for purification and expiation by the censors at the end of the quinquennial

census of the Rom. people; a five-year period thus became known as a L. The sacrificial victims (boar, sheep, and bull) were carried round the people assembled in the Campus Martius, hence it was also called the Ambulstrum. Before any expedition was undertaken, and after any disaster, the *lustratio* of the fleet or army was performed. See LUPERCALIA.



A SIXTEENTH-CENTURY LUTE

Lute (Arabic *al ud*), stringed instrument of music, widely used in the sixteenth and seventeenth centuries. The primitive type of L. is the two-stringed *tanbur* of Persia. It came into Europe through the Arabian *al ud*, which consists of a convex and pear-shaped sound-body stringed with silk and played upon by a shell or quill plectrum. The L. family includes the Neapolitan mandoline, but excludes the guitar and sitar, which are distinguished from it in shape and by possessing sides and ribs. The s. s. L. seems to have had four pairs of catgut strings: the mandoline still has four pairs, but the larger *mandola* or *mandore* has eight pairs. The *theorbo* or *archlute* is a double-necked L.; it has

extra brass strings, and the necessity of retuning these at an alteration of key led to the custom of using only one key for the movements of a suite; the *chitarra* has a very long neck. These two forms were superseded by the violoncello and the double-bass, and the mandoline, ukulele, etc., are descendants of the L. Mozart, Bach, and Handel wrote parts for the instruments of the L. family.

Lutecium. Symbol Lu, atomic number 71, atomic weight 175.0, an element discovered independently by A. von Welsbach (1905) and G. Urbain (1907). The former named it Cassiopeium, and the latter adopted L., which is now the accepted name. It was separated from ytterbium proper (called neo-ytterbium for a time) in the so-called 'ytterbium,' which was really a mixture of the two elements. This was achieved by fractionation of the nitrates. L. is a rare-earth element, with the typical valency of three. It forms colourless salts such as the chloride and sulphate. Pure lutecia, Lu₂O₃, was isolated in 1913.

Lutetia Parisiorum, anc. tn. corresponding to Paris, founded in 53 B.C. by Julius Caesar, who fortified it for strategic purposes.

Luteva, see LONÈVE.

Lutgendortmund, tn. in Westphalia, Germany, 5 m. S.W. of Dortmund. It has collieries and sawmills. Pop. 15,000.

Luther, Hans (b. 1879), Ger. statesman b. in Berlin, studied law and entered the public service, first at Charlottenburg and then in Magdeburg. During the First World War he was secretary to the association of Ger. and Prussian tns., and from 1918 to 1922 was burgomaster of Essen. In Dec. 1922 he returned to Berlin to take office as food minister; and nine months later was made finance minister of the republic under Brünnemann. In this office he negotiated the Dawes loan for Germany (1924) and was responsible for restoring the Ger. currency. In 1925 he became chancellor, in which capacity he headed the Ger. delegation to Locarno (see LOCARNO CONFERENCE AND TREATIES). He resigned in May 1926 and became connected with the management of the state railways. He had no definite party affiliations, but in 1927 he became a member of the People's party. In 1930 he succeeded Schacht as governor of the Reichsbank and left this post in 1933 to become Ger. ambassador in Washington (1933-37).

Luther, Martin (1483-1546), Ger. reformer and translator of the Bible, called the 'Founder of Protestant Civilization.' He was b. at Eisleben, in Saxony, of peasant parents. His father, Hans L., a slate-cutter, and his mother, Margaret, a very pious and industrious woman, moved after his birth to Mansfeld. The boy was sent to school at Magdeburg, and then in 1498 to Eisenach, where he lived with Frau Ursula Cotta. His means were very restricted, and to earn a few coins he and some of his school friends sang occasionally in the streets. At the age of eighteen L. entered the univ. of Erfurt, where he received his first degree in 1503 and his

doctorate in philosophy two years later. He then began lecturing on the physics and ethics of Aristotle, and within a year, contrary to the desire of his father, who had destined him for the legal profession, he entered an Augustinian monastery at Erfurt. During these years he passed through severe mental conflicts, and found much comfort in reading the works of St. Augustine. He was ordained priest in 1507, and in the following year entered upon his duties as prof. of philosophy to the new univ. of Wittenberg. He abandoned the methods of a decayed scholasticism and rejected the guidance of traditional authorities. He was much attracted by the works of Wm. of Occam, an Eng.



MARTIN LUTHER

Engraving after the original picture by Holbein the younger

Nominalist, who had preached ecclesiastical reform. In 1510 L. visited Rome on business connected with his monastic order, and was deeply moved at the irreligion and corruption of the papal court. On his return to Wittenberg in 1512 he was made doctor of theology. About the same time he began to preach at the desire of Staupitz, the vicar-general of his order, and attracted great crowds by his eloquence.

He first became prominent in the direction of ecclesiastical reform by his pub. in Lat. of ninety-five propositions directed against the sale of indulgences by the Dominican monk, Johann Tetzel. These he nailed to the church door at Wittenberg Castle on Oct. 31, 1517. A Ger. trans. spread through Germany like wildfire. The original propositions were burnt as heretical, but L. refused to recant, and even refused to obey a papal summons to Rome, though he asserted that at this time he did not contemplate severing his connection with the Church of Rome. In

the same year (1517) he pub. his first work, an *Exposition of the Seven Penitential Psalms*, which was soon followed by an *Exposition of the Ten Commandments* and of the *Lord's Prayer*. At a general meeting of his order in 1518 he attacked the outworn scholastic methods in theology, and in the same year had a controversy with Dr. Eck. He also pub. his *Resolutions*, which emphasised his objection to the sale of indulgences. Though refusing to go to Rome, he agreed to meet Cardinal Cajetan at Augsburg, but the interview had no satisfactory results as far as the pope was concerned. If anything L.'s position became more radical, and his disciples increased every year.

In 1520 L. pub. three of his most important works, namely, *On the Liberty of a Christian Man*, *An Address to the Nobility of the German Nation*, and *On the Babylonian Captivity of the Church of God*. In these he attacked the supremacy of the pope and the doctrines of the Church of Rome. He appealed for tolerance and showed the practical need of the individual to approach God by his own prayer, without the intervention of a priestly mediator. He now realised fully that his separation from the Church of Rome was inevitable. The pope replied to his attack by issuing a Bull of forty-one theses. This Bull L. burnt publicly at the Elster Gate of Wittenberg before a large crowd of students and sympathisers. In this same year Charles of Spain was crowned emperor at Aachen, and to his first Ger. diet, in Jan. 1521, L. was summoned. L. repaired to Worms and, called upon before the assembled powers of Germany to retract his writings, made his confession of faith. He was placed under the ban of the empire, but received practical help from his many admirers among the princes of the empire. The news spread that he had been assassinated by papal emissaries. Germany was in a ferment of excitement. The fact of the matter was, as became known later, the reformer had been safely conducted to the castle of the Wartburg at the instigation of his friend, the Elector of Saxony. There he was virtually kept a prisoner until the excitement should subside. He spent these hours of seclusion in hard study and in translating the Bible into Ger.

Meanwhile Lutheran opinions were spreading fast among the Ger. populace, restive under both social and eccles. grievances. Germany, in consequence, was threatened with disorders, and even with revolution. The trouble was worst at Wittenberg, where the populace had been excited by the teaching of the Zwickau prophets. L. left his retreat, and by reinstating order estab. his own position as leader. He did his utmost to prevent the Peasants' war of 1525, and though previously opposed to the tyranny of the ruling classes, he was no democrat, and urged them to suppress the insurgents in every way in order to procure peace. This lost him much popular sympathy and helped to mould the Protestant Church into an oligarchic and Erastian form. In this year too he be-

came estranged from Erasmus, to whose treatise *De Libero Arbitrio* he replied hotly in *De Servo Arbitrio*. About the same time he married Catherine von Bora, a Cistercian nun, who with eight companions had left her convent under the influence of his teaching.

At the diet of Speyer in 1526 it was resolved that both parties, Catholic and Protestant, should preach according to their conscience, but three years later the diet abolished this clause, and added another to the effect that no religious body might be deprived of its eccles. revenues, in other words, that the Church of Rome retained the revenues of the medieval church. The princes who, having changed their religion, had seized Church endowments protested against this edict and were therefore called Protestants. But the Protestants were divided among themselves on political questions as well as on the doctrine of the Lord's Supper. Zwingli and L. met at Marburg in this year to discuss their views on this question. To the diet of 1530 three separate Protestant confessions were sent, namely that of Zwingli, the *Confessio Tetrapolitana*, and the famous *Augsburg Confession*. L., being still in disgrace, did not appear in person, and his place as leader was taken by Melancthon. Charles V. was determined to suppress the Reformation. Finding compromise impossible he enforced the edict of Worms against L. and his followers. The Protestant princes joined together to oppose the decisions of the diet and formed the Schmalkald League. The Reformation now became more political in aspect, and L. gradually retired from the leadership. In fact, after the drawing up of the *Augsburg Confession*, he lived in comparative privacy, but continued to do a great deal of work in organising the eccles. polity of the new church and in suggesting its form of ritual. The Lutheran Church, differing from the Reformed Church, retained most of the medieval ceremonies and vestments. Its chief distinction from the medieval church was that the whole service (singing, reading of the Scriptures, and preaching of the sermon), was conducted in Ger. Ill health prevented L. from preaching as frequently as he would have liked. He d. at Eisenach.

L.'s writings were voluminous. The most interesting of those not already mentioned are the *Table Talk* and his *Letters*. He also wrote commentaries on the Bible, and many of his sermons are still read. The chief eds. of his works are those of Wittenberg (12 vols., 1539-58); Halle (24 vols., 1740-53); Erlangen and Frankfurt (67 vols., 1826-73); reissue Weimar (1883); people's ed. (1892); see also H. Wace, trans. of his primary works, 1896. His life was written by Melancthon, *Historia de vita et actis Lutheris* (1545). See also lives by J. Michelet (trans. by W. Hazlitt, 1846); A. Meurer, 1870; J. Kostlin, 1875; Koldo, 1884-93; A. Hausrath, 1904; A. P. Smith, 1911; H. Grisar (trans. 1913-17); J. Mackinnon, 1930; F. F. Brentano, 1936; and J. Martain (in *Three Reformers*), 1948. See

O. Beard, *Martin Luther and his Reformation in Germany until the Close of the Diet of Worms*, 1889; H. E. Jacobs, *The Lutheran Movement in England*, 1890; T. M. Lindsay, *Luther and the German Reformation*, 1900; J. W. Richard, *Confessional History of the Lutheran Church*, 1909; H. S. Denig, *Luther and Lutheranism*, 1910; H. Grisar, *Luther* (trans.), 1914; and J. W. Allen, *Political Conceptions of Luther*, 1924.

Luton, called by the Saxons Lygetune, and in the Domesday Book Loitoline, is an industrial and mkt. tn. of Bedfordshire, England, 19 m. S. of Bedford and 30 m. N. of London. The tn. was incorporated as a municipal bor. in 1876, and is the largest non-co. bor. outside the London area. It has a pop. of approximately 109,150, and an area of 8736 ac. It is an anct. tn., but until the founding of the straw-hat industry in the early nineteenth century it was of little importance. From then onward L. has progressed. The straw-hat trade was gradually replaced by ladies' felt-hat making, and to day it is still a centre of this trade. Other industries were attracted to the tn. by the offer of good sites, transport, and abundant skilled labour, and before 1914 offer of good sites and transport, and abundant skilled labour, and before 1914 such well-known firms as Vauxhall Motors, Skefko, Commer Cars, and Davis Gas Stoves were estab. in the tn. This process was continued during the post-war period, and the advent of the new industries meant for L. immunity from the economic crises of the 1930s. Other industries, including the manuf. of gelatine, cocoa, chemicals, electric cleaners, and refrigerators, have since been estab. in L. and with the creation of a municipal airport in 1936 a new industry of aeroplane manuf. was added to the tn.'s list.

L. has sev. fine buildings, the most modern of which is the tn. hall, opened by the duke of Kent in 1936. Its tall clock-tower contains a clock which was a bequest of a former mayor of the tn. The anct. par. church of St. Mary is, however, the chief building of traditional interest. Dating back to Norman times, traces of which may still be seen, it is a cruciform building in the Decorated and Perpendicular styles, and is among the largest of the par. churches of England. The interior of the church is full of interest, one of the most striking features being the unique canopied baptismal font of the Decorated period. See F. Davis, *History of Luton*, 1855, and *Luton Past and Present*, 1874; W. Austin, *History of Luton and its Hamlets*, 1928; J. G. Dony, *History of the Straw-hat Industry*, 1912; and F. Grundy and R. M. Titmas, *Report on Luton*, 1915.

Lutsk (Polish Lusk), tn. in the Volhynia Region of the Ukraine S.S.R., formerly Polish, 40 m. E. of Vladimir. It belonged to Russia from 1791 until the close of the First World War. Its fortress was captured by the Russians under Gen. Brusilov in June 1916. There were fierce tank battles in the L.-Kovno area between Ger. and Russian forces on June 29-30,

1941, L. being lost to the Russians. But it was evacuated by the Gers., together with Kovno, on Feb. 25, 1944, during the great battles for Kiev and Lwow. Pop. 20,000.

Lutterworth, mkt. tn. and dist. of Leicestershire, England, 6½ m. N.N.E. of Rugby. St. Mary's Church contains the pulpit and various relics of John Wycliffe, who held the living from 1374 till his death in 1384. There is considerable trade in agric. produce. Pop. (rural dist.), 10,400.

Lüttich, see Liège.

Luttrell Psalter, famous monumental vol. and one of the most outstanding illuminated MSS. of the fourteenth century; remarkable, too, for being one of the very few Eng. illuminated MSS. which remained in private hands until recently. Its date is about 1340. Its text, comprising the usual church offices, is embellished with exquisitely drawn illustrations of 'contemporary life, e.g. a picture of Geoffrey Luttrell (or Louterell) on a charger, with his wife and daughter in the same group. The MS. passed into the possession of the Weld family of Lutworth Castle, Dorset. Since 1929 it has belonged to the nation, having been purchased for £50,000.

Lüttringhausen, tn. in Rhineland, Germany, 5 m. E.E. of Elberfeld. There are iron and textile manufs. Pop. 13,600.

Lutyens, Sir Edwin Landseer (1869-1914), Eng. architect, b. in London, son of Charles L., who gave up the army for painting. Educated privately in art at St. Kensington, and in architects' offices, he was a practising architect at the age of nineteen, beginning by designing picturesque country houses, giving great attention to brickwork as ornament. In 1903 he began the restoration of Ludlow Castle, which was completed by 1912. A comprehensive example of his work in London is the central square of the Hampstead garden suburb, with its churches, St. Jude's-on-the-Hill and the Free Church, and the Institute. Other works he designed in London are Britannic House, Rushbury Circus; Midland Bank, Piccadilly; offices of *Country Life*; and 36 Smith Square. After 1912 he designed the restoration of Lambay and Howth Castles. In 1912 he was appointed to the committee advising the gov. of India as to the site of New Delhi, and subsequently he was one of the two architects (the other being Sir Herbert Baker) to plan and design the architectural scheme of the new Indian cap. Probably New Delhi, and the new Rom. Catholic cathedral, Liverpool, are his most important works in architecture. A.R.A., 1913, R.A. 1920, he was knighted in 1918, received the king's gold medal of the R.I.B.A. 1921, and in 1926 received the London street architecture medal of the R.I.B.A. for Britannic House. In 1924 he received the gold medal of the Amer. Institute of Architects. Other works by L. include the Manchester war memorial, Hampton Court bridge, Johannesburg picture gallery, and St. African war memorial; the tomb of George V. (in collaboration with Sir Wm. Reid Dick, the

sculptor) in St. George's Chapel, Windsor; the Australian national war memorial at Villers-Bretonneux; and the Cenotaph in Whitehall. He received the O.M. in 1942, being the first architect to be so honoured.

It is chiefly as a domestic architect that L. will be remembered, and his work on the design of modern Eng. country houses is a parallel to the work of Wren in adapting Renaissance ideas to building in brick. Of New Delhi it has been said that it suggests the setting rather for a Durbar than provision for gov. depts. and, illustrating as it does, the progress of L. from the picturesque to the monumental, serves to mark his limitations. That he had some sense of the monumental is shown by his cenotaph and Stone of Remembrance, but his natural bent might seem to have lain in the designing of façades and in the application of an intimate knowledge of fine craftsmanship in all that appertains to the art of building. In any case he was an architect in the tradition of Wren, probably the greatest since Wren, and probably he was the last of his line in an age when the grand manner of Renaissance building is yielding to a new age of glass, steel, and ferro-concrete, with the ideas in the manipulation of space which these materials have conducted to bring about. Whatever their inspiration, L.'s buildings were never mere revivals from a past age. His vice-regal palace at New Delhi is a genuine blending of E. and W., and worthy of a great artist, as may be seen by comparing it with nearby official buildings where features have been incorporated into structures without any modification. L. was president of the Royal Academy from 1938 to 1944 and a memorial tablet was unveiled in St. Paul's on May 9, 1946, in the crypt among the memorials to other royal Academicians.

Lützen, small tn. in Saxony, Germany, about 10 m. S.W. of Leipzig, with a pop. of 4900. It is famous for two battles: (1) The victory won, on Nov. 16, 1632, by the Swedes, numbering 18,000 under King Gustavus Adolphus (q.v.) over the imperialist army of 30,000 men under Wallenstein. The Swedish king, after being twice wounded, perished on the field, but this misfortune, far from discouraging the Swedes, now led by the redoubtable Bernhard of Saxe-Weimar, did but inflame their zeal for victory. (2) The victory of Napoleon with an army of some 115,000 men over the allied Russians and Prussians, who numbered 70,000, under Wittgenstein. Napoleon was, however, unable to follow up his victory. This battle is also known as the battle of Grossgörschen.

Lützow, Franz Heinrich Hieronymus (1849-1918), Bohemian historian, b. in Homburg, son of Franz, Count L. Eng. on his mother's side. He spent half his time in England. He was lecturer on Slavonic subjects at Oxford in 1904, and lectured in Amer. univ., 1912. His publs. include *Bohemia, an Historical Sketch* (1896); *History of Bohemia*

Literature (1899); a trans. of Comenius's

Hus (1909); and *The Hussite Wars* (1914).

Lützow, Ludwig Adolf Wilhelm, Freiherr von (1782-1834), Prussian soldier, b. at Berlin. He entered the army in 1795, and saw active service at the battle of Auerstadt and the siege of Colberg. At the outbreak of the war of Liberation (1813) he raised a volunteer corps of infantry and cavalry which was called the 'Black Rifles'. The corps was dissolved in 1814, becoming the 25th Regiment. L. led a gallant charge of the 6th Uhlans at Ligny (1815). He was promoted to the rank of lieutenant-general in 1830. See K. von Lützow, *Adolf Lützows Freikorps*, 1884, and F. von Jagwitz, *Geschichte des Lützowschen Freikorps*, 1892.

Luwian Language, see under INDO-EUROPEAN LANGUAGES.

Luxation, see DISLOCATION.

Luxembourg, François Henri de Montmorency-Bouteville, Duc de (1628-95), marshal of France, cousin of the great Condé, b. in Paris. He shared Condé's fortunes in the wars of the Fronde, was pardoned by Louis XIV. on his return to France (1659), and subsequently was created a peer of the realm (1661). He served in the Netherlands (1667), and defeated William of Orange at Woerden (1672). His retreat from Utrecht (1673), in the face of tremendous odds, was a masterly exploit that won for him a high reputation. In 1690 he defeated the allied troops at Fleurus, and put his old enemy, now William III. of England, to rout at Steinkirk (1692) and Neerwinden (1693). See J. de Beaurain, *Histoire militaire du Duc de Luxembourg*, 1756, and life by Comte de Ségur, 1907.

Luxembourg, prov. In the S.E. of Belgium, bounded on its E. side by the grand duchy of L. and to the S. by France. It is the region of the Ardennes and is watered by tribes of the Meuse and of the Moselle. There are large areas of forest and poor mt. pastures. Agriculture is mainly carried on in the fertile valleys. In its S. part, which forms an extension of the Lorraine ironfield of France, iron ore is found and worked. The prov. produces mainly pit props, timber, slate, iron, leather, and tobacco. The chief manufs. are boots and shoes, gloves, pottery, and hardware. The breeding of horses, cattle, and pigs is carried on. Chief tns. are Bastogne, Vielsalm, Marche St. Hubert, Virton, and La Roche. They all have fewer than 5000 inhab. Area 1706 sq. m. Pop. 213,400. The cap. is Arlon.

Luxembourg (Letzeburg), independent grand-duchy of Europe, bounded on the E. by Germany, S. by France, W. and N. by Belgium. Area 999 sq. m. The E. part belongs to the plateau of Lorraine, and the N. which is still higher, consists of the forest of Ardennes. The country is watered by the Sûre and affluents of the Moselle, which forms part of its E. border. Agriculture is carried on by about 160,000 of the pop., and some 210,000 ac. are under

cultivation, the chief crops being oats and potatoes. There are also about 150,000 ac. of meadow and pasture land. The mining and metallurgical industries are the most important and there are many blast furnaces; there is an ann. output of nearly 4,000,000 metric tons of iron ore and 2,500,000 metric tons of steel. From this output, as well as from its strategic position, L.'s importance derives. There are also manufs. of pottery, woollens, gloves, and leather.

The reigning grand-duchess is Charlotte (b. 1896), who succeeded on the abdication of her sister, Marie Adelaide, in 1919. The legislative power is vested in a Chamber of Deputies numbering fifty-one, who are elected for six years on a basis of universal suffrage. The sovereign nominates the ministers as well as an advisory council of state. Education is compulsory, and military service has been obligatory since 1914. There are good railway lines, 340 m. in length. The chief tns. are L., the cap., Esch-sur-l'Alzette, a mining centre, Differdange, Dudelange, and Petange. Pop. 291,000, nearly all Rom. Catholics.

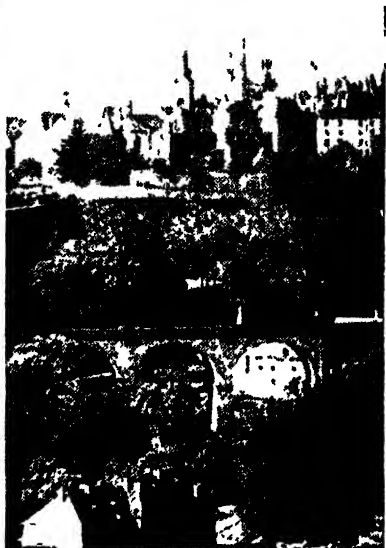
The counts of L. took their name from the castle of Lucilin-burhuc, which was acquired by the first Count Sikefroid in 963. In 1308 Count Henry became Henry VII., emperor of Germany. Henry's grandson, Charles IV., raised L. to the rank of a duchy in 1354. In 1443 it was united with Burgundy, and in 1506 became Sp. By the treaty of Utrecht (1713) it was ceded to Austria, but was annexed to France at the peace of Campo-Formio (1797). At the congress of Vienna (1815) it was created a grand duchy and part of the Ger. confederation, and by the treaty of London (1867) it was declared a neutral independent state. In 1914 it was overrun by the Gers. and remained in their occupation until 1918. In 1919, by the treaty of Versailles, it was declared free of all Ger. ties. In 1921 a Bill was passed for the economic union of L. with Belgium and the use of Belgian currency. In 1948 a customs union (Benelux) of Belgium, the Netherlands, and L. came into being. In April and May 1948, constitutional changes were decided upon, the most important of which was the abandonment of unarm'd neutrality, imposed upon the Grand Duchy in 1867.

On May 10, 1940, L. was again invaded by Ger. troops and the grand duchess went to England. The Gers. appointed a gauleiter with the intention of absorbing L. in the Reich as Gau Moselland. Early in Sept. 1944 the Amer. First Army advanced rapidly across Belgium and L. on a 65-m. front and the city of L. was liberated on the 11th. The Allies then crossed the frontier N. of L. on Sept. 14. But on Dec. 16 Runstedt's army drove sev. m. into L. in the battle of the Ardennes. The Allies again advanced in N. L., Amer. forces launching N.-eastward from the Arlon-L. area and driving the Gers. out again. See further under WESTERN FRONT IN SECOND WORLD WAR, Marshal von Rundstedt's Counter-Offensive.

Language and Literature.—The L.

language, based upon old Teutonic roots, has borrowed extensively from the Celtic, Rom., and Fr. Throughout the centuries Ger. and Fr. roots have been phonetically altered and the language is still spoken in Ger., Belgian, and Fr. border regions which in the course of hist. were separated from the Grand Duchy proper. There is an extensive literature in the L. language. Amongst other classics are *Renart* by Michel Rodange, poems by Michel Lentz, plays by Dickx (Edmond de la Fontaine), and André Duchacher. In spite of the Luxembourgers' affection for his mother tongue, which is exclusively used by every class of the pop., Fr. has been for over 400 years the official legislative, administrative, and judicial language. The people are used to bilingualism, which, far from giving rise to any difficulties, provides a decided advantage in their dealings with neighbouring countries.

Luxembourg, cap. of the above, situated on the Alzette, 42 m. N. of Metz, is a dismantled fortress. It consists of two parts; the upper tn. stands on a rocky



Luxembourg Legion

LUXEMBOURG CITY

cliff and is connected with the lower tn., lying in a ravine, by flights of steps. The chief buildings are the Gothic cathedral of Notre Dame, the Grand Ducal Palais (1580), and the tn. hall. Steel and iron works, tanning and brewing comprise the main industries. L. was liberated by the Allies on Sept. 11, 1944. Pop. 62,000. See T. H. Passmore, *In Further Ardennes*, 1905; R. Putnam, *Luxembourg and her Neighbours*, 1918; Muirhead and Mon-

marché (editors), *Belgium and Luxembourg, 1929*; *The Luxembourg Grey Book* (preface by J. Bech), 1942; and J. Petit, *Luxembourg Yesterday and To-day, 1945-1947*.

Luxembourg Palace, in Paris, on the S. side of the Seine, was erected by Marie de Medici, and in 1879 became the meeting-place of the Senate. Attached to it is a gallery in which are exhibited the works of living artists. See PARIS.

Luxemburg, Rosa (1870-1919), Ger. revolutionary of Polish descent. She acquired Ger. nationality by marriage with a Ger. workman. Having devoted her energies to the Socialist papers *Arbeiterzeitung* and *Leipziger Volkszeitung*, she went to Russia, and there took part in the uprising of 1905. During the First World War she was held in preventive custody, but after the revolution she joined Liebknecht as co-editor of the Communist *Rote Fahne*. Together they were arrested (charged with complicity in the Berlin disturbances of Jan. 1919), but were attacked on their way to jail and murdered. L. was the author of *Die Akkumulation des Kapitals* (1913); *Briefe aus dem Gefängnis* (1920); and other works. See C. Liebknecht, *The Murder of Karl Liebknecht and Rosa Luxemburg*, 1924.

Luxeuil (anc. Luxovium), tn. in the dept. of Haute-Saône, France, 27 m. N.W. of Belfort, is famous for its mineral baths, known to the Romans. St. Columba founded a monastery here in 590, destroyed in the ninth century. Manus. are paper, cotton, and wines. Pop. 5000.

Luxor, see THEBES.

Luxullian, tn. in the co. of Cornwall, England, 6 m. S.W. of Bodmin. It has important granite quarries, and gives its name, Luxullianite, to a porphyritic rock found in the neighbourhood. Pop. 1000.

Luyne, or Luynes, Charles d'Albert, Duc de (1578-1621), courtier of Louis XIII., son of Honoré d'Albert (d. 1592), governor of Beauchamp. He instigated the assassination of Concini (1617); as governor of Picardy suppressed a rising of nobles (1620); and after being appointed constable of France (1621), headed an expedition against the Protestants. See *Recueil des pièces les plus curieuses qui ont été faites pendant le règne du connestable M. de Luyne* (2nd ed.), 1624.

Luz (Almond): 1. Old name of Bethel, tn. in Palestine, 9½ m. N. of Jerusalem. 2. Tn. in the land of the Hittites, Palestine, whose site has not been identified.

Luzán, Claramunt de Suelves y Gurrea, Ignacio (1702-54), Sp. poet and man of letters, b. at Saragossa. He was appointed secretary to the Sp. legation in Paris (1747-50) and treasurer of the Royal Library at Madrid (1751). His literary reputation was made and still remains on his criticism of poetry, *La Poesía, ó Reglas de la poesía en general y de sus principales especies* (1737).

Luzern, see LUZERNE.

Luzerne, tn. in the co. of L., Pennsylvania, U.S.A., 2 m. N. of Wilkesbarre. It has iron foundries, factories, and flour-mills. Pop. 8000.

Luxon, or Luçon, largest and most

northerly of the Philippine Is., with an area of 40,420 sq. m. L. was Sp. from the sixteenth century until it was ceded to America in 1898. It became part of the new Philippine Republic in 1946. The coast-line is much indented, the principal inlets being the gulf of Lingayén and Manila Bay on the W., Tayabas and Ragay Bays on the S., and the bays of Lagonoy, San Miguel, and Lamón on the E. The Is. is very mountainous. The highest peak is the volcano Mayón (7566 ft.) There are six chief rivers: Río Grande de Cagayán, Agno Grande, Abra, Río Grande de la Pampanga, Vicol, and Pasig, besides many streams and lakes. The vegetation is tropical and luxuriant. The chief manufs. are silk, tobacco, ivory carvings, and mats. Iron, copper, and coal are mined; a very large chrome deposit has been found; gold is produced in N. and E. L. The pop. of 3,800,000 is of mixed race, some 200,000 remain pagan.

Japan began hostilities against the U.S.A. on Dec. 7, 1941, and among other places raided the Clark airfield in N. L., killing 200 men. Soon afterwards their forces landed on the Is. Manila the cap. was raided by bombers on Dec. 13, and captured on Jan. 1, 1942. Though greatly outnumbered the Amers. and Filipinos under Gen. MacArthur put up a remarkable defence on the Bataan peninsula until April, the garrison at Corregidor holding out for nearly a month longer. The Amers. returned within three years when very large forces of troops landed on L. on Jan. 9, 1945. On the next day the Amers. controlled all beaches in Lingayán Gulf and captured the Lingayán airfield. The Jap. armies were split in two by the Amer. advance of Jan. 20, and on Jan. 25 the Jap. lost the main air base. The Amers. entered Manila on Feb. 3. Bataan and Corregidor were in their possession by Feb. 21. See PACIFIC CAMPAIGNS.

Lvoff, or Lvov, Prince Georgi Evgenievich (1861-1925), first prime minister of revolutionary Russia. Educated at Moscow Univ. he organized zemstvos or prov. and dist. councils in Manchuria during the war with Japan. He became a member of the Duma in 1905, as a constitutional democrat. On the abdication of the last tsar he was placed at the head of the state, March 14, 1917, giving place to Kerensky in July. Imprisoned when the Bolsheviks came to power, he escaped through Siberia to Japan, thence to France.

Lvov (Polish Lwów, Ger. Lemberg), city of the L. Region of the Ukraine S.S.R., 305 m. E.N.E. of Vienna, in a deep valley and picturesque dist. Before the First World War it was the seat of the Galician Diet under the control of the imperial gov. at Vienna. It was hotly contested in that war, the first great battle for it lasting from Aug. 31 to Sept. 2, 1914, when it fell to the Russians, who took over 100,000 prisoners and renamed it L. or Lwów. After this a Russian administration was estab. in 1915 during Mackensen's brilliant drive of 1915 the Austrians, under Gen. Boehm-Ermolli (q.v.), re-entered it in June of that year. In 1917, during Brusilov's spectacular Russian offensive, it

was only saved to the Austrians by revolutionary outbreaks in the Russian ranks. Frequent riots occurred in 1917 and 1918, fomented by separatist sympathisers. L. passed into Russian control until its cession to Poland in 1923; in 1945 it became part of the Ukraine. Before 1939 it was the seat of a Uk. Catholic and of an Armenian Catholic archbishop. The univ. was estab. in 1634, and L. was for long a centre of Polish culture. An academy of commerce was estab. in 1922. Up to 1939 it was one of the ten Polish military dists. Its many manufs. before the Second World War included machinery and textiles. (See further under AUSTRIA-HUNGARY; BRUSSELOV; WAR, THE FIRST WORLD—EASTERN FRONT IN 1914—German Invasion of Russian Poland; Russian Advance into Galicia.)

As a major base guarding the gap between the Carpathians and the Pripiet, L., which had been taken by the Gers. in 1941, became a vital objective during the great Russian offensive of 1943-44. In Jan. 1944 the Russians were still 50 m. from it. Beyond lay the oil fields of Galicia, the industrial triangle of Poland, and, further W., the great industrial area of Silesia. The Gers. were therefore bound to try to hold it at all costs. Following his success in the Tarnopol area Zhukov took Kamenets Podolsk and advanced some 40 m. But then came a long pause in the Russian offensive here, and the S. drive was not resumed till July 1944, when Marshal Konev launched an attack on a front of 125 m. between Lutsk and Tarnopol. The focus of the battle was the fortress of Brody guarding the approaches to L. Brody fell, together with 45,000 Ger. dead or captured. Konev then crossed the Bug and, advancing N. of L., cut its direct supply lines, and pressed down in a circling movement against the great base, while his left wing struck at Stanislaw which barred the way to the Carpathian passes. On July 25 Konev in a sweep to the rear of L., accompanied by a flank attack to the S., closed the 'pincers' at last around L. Once encircled and isolated L. collapsed with surprising speed. After a motorised force had broken through the defences covering the railway L. was directly attacked by the encircling troops, and on July 27 street fighting ended with the city in Russian hands. See also EASTERN FRONT IN SECOND WORLD WAR. Pop. (region) 3,130,000 (1935); (city) 320,000 (1935), a large proportion of which were Jews.

LXX (abbreviation for Septuaginta), Septuagint, the Gk. version of the O.T., said to have been made by seventy translators at Alexandria about 300 B.C.

Lyall, Sir Alfred Comyn (1835-1911), Eng. administrator, b. in Surrey, and educated at Eton and Haileybury. He became governor of the N.W. Provs. of India in 1882, and in 1883 was appointed a member of the council of India. His sympathy with the character and difficulties of the Indian people won for him a position of authority, and his *Asiatic Studies* (1882) is accepted as a standard

work. His other books include *Verres written in India* (1889); *Life of Warren Hastings* (1889); *The Rise and Expansion of the British Dominion in India* (1893); a criticism of Tennyson (1902); and *The Life of Lord Dufferin* (1905).

Lyall, Edna (1857-1903), pseudonym of Ada Ellen Bayly, Brit. novelist, the author of numerous works of fiction, which appeared between 1879 and 1901. Her best books were *Donovan* (1882) and its sequel, *We Two* (1884). See life by J. M. Escreet, 1901.

Lyautey, Louis Gonzalve Hubert (1854-1934), marshal of France, b. at Nancy; son of Just L., inspector-general of bridges and roads, and grandson of an artillery general of the Second Empire. Sent to Indo China in 1894, he later became chief of staff to Gallieni, whom he accompanied to Madagascar in 1897. L. brought order to the S. part of that is., theretofore unsubdued. Brigadier-general in 1903, in 1906 he became chief of the div. of Orlan.

Put by Poincaré at the head of the new Fr. protectorate of Morocco in 1912, L. revealed himself a veritable modern pro-consul as both builder and reformer; and fortunately for the Fr. he secured the loyal co-operation of Mulai Yusuf, who had succeeded his brother Mulai Hafid, the erstwhile Fr. protégé who had fallen under Ger. influence and was always ready to betray the Fr. When the First World War broke out L. had to send most of his troops home and to keep order and continue his reforms with weak effectives, while having to thwart constant attacks organised by Mulai Hafid. After the treaty of Versailles the Fr. had reduced their last opponents in Morocco, besides completing the network of roads made by L. This was the moment chosen by Abd-el-Krim (q.v.) to attempt a last uprising against the Fr. Ultimately, however, Morocco was completely pacified, and it was due to L.'s achievement that the protectorate remained loyal. One of his most notable reforms was the introduction of courts of appeal; he also laid the foundations of free public education: schools for the sons of notables, Moslem colleges, and practical primary schools. His success in so rapidly creating prosperity in the protectorate was due largely to emphasis on agric. colonisation and by carrying out an immense public works programme. Large tracts were purchased by the protectorate for settlers and for public works, in a country where Muslims sell reluctantly; but L. managed to carry out that part of his programme with great flexibility and without the slightest conflict. Contrary to the policy in Algeria and Tunisia of introducing Fr. legislation *en bloc*, in Morocco L. proceeded differently, Fr. legislation being adapted by him to the country and its people. But a method of directing the development of the country toward a Moroccan law and toward the Fr. language rather than the Arab language has not even to-day been completely evolved, though the difficult ethnic problem of the Berbers was partially resolved, by

defending them against absolute encroachment on the part of Islam. Yet in all his reforms L., like Faidherbe, Gallieni, and Gouraud, respected Moslem traditions and religion. In short, L. compelled world-wide admiration for his remarkable development of Morocco, its roads, ports, railways, first-class hotels, and tns.—modern city planning being more in evidence than in many European cities. L. was elected to the Academy in 1914; for a few months in 1916-17 he was minister for war; in 1921 he was made marshal. He resigned his position in Morocco in 1925. See life by A. Maurois (Eng. trans. 1931).

Lycanthropy (Gk. λύκος, wolf; ἀνθρωπος, man) was the power attributed to certain mortals of changing themselves into wolves. It was also used in a broader sense, and applied to the metamorphosis into any animal, i.e. tiger, dog, bear, fox, etc. Herodotus relates that the Neuri turned to wolves for a few days every year, and in Virgil's eighth Eclogue we read how Moeris makes himself a wolf by means of poisonous herbs. In the Scandinavian sagas, too, there are 'werewolf' warriors of peculiar ferocity, and the belief was long current in Denmark that a werewolf could be recognised by its howls meeting. The word is used in pathology to denote a mental disease in which the patient imagines he is an animal.

Lycæon, in Gk. mythology, the son of Pelæus, and king of Arcadia. Various stories are told of him; according to some he was a barbarian, who even defied the gods, while others describe him as the first civiliser of Arcadia, who built the tn. of Lycæura and introduced the worship of Zeus Lycæus. He was the father of fifty sons who were notorious for their impiety. They were visited by Zeus, and entertained the god by setting before him a dish of human flesh. Zeus pushed away the table which bore the horrible food, and either killed L. and his sons by a flash of lightning, or turned them into wolves.

Lycæonia, anct. prov. of Asia Minor bounded on the N. by Galatia. According to Strabo it was a bleak country, well adapted as pasture-land for sheep and wild asses; King Amyntas is said to have possessed over 300 flocks of sheep. It suffered from dearth of water, which was probably aggravated by the abundance of salt in the soil. The inhab. were a hardy and warlike race, which owned no subjection to the Persian monarchs, and lived by plunder and foray.

Lycæum, The (τὸ Λυκαῖον), name of an anct. gymnasium and garden with covered walks at Athens. It was situated S.E. of the city, outside the walls, just above the R. Ilissus, and received its name from the temple of Apollo Lycæus in the vicinity. Here it was that Aristotle and the Peripatetics taught, and it was also the place where the Polemarch administered justice.

Lycæum Theatre, in Wellington Street, Strand, London, was first built in 1795, and received its licence in 1809 when the Drury Lane Company took it over. Since then it has been rebuilt more than once,

and has been the scene of many remarkable performances, notably those by Mrs. Keeley and Edmund Kean, Planche's 'fairy extravaganzas,' and Beverley's transformation scenes. Irving first appeared at the L. in 1871 under Bateman's management, and played Mathias in *The Bells* with remarkable success, following this by Hamlet, Macbeth, Othello, and other roles. In 1878 he opened the theatre under his own management, and revived *Hamlet* and produced *The Merchant of Venice*, with Ellen Terry as Ophelia and Portia. The period that followed had a remarkable effect on the Eng. stage; the L. stage management and the brilliancy of its productions in scenery, dressing, and accessories, were revelations in the art of *mise-en-scène*. But in 1899 the theatre passed into the hands of a limited liability company. It soon deteriorated in the character of its performances, being devoted mainly to the production of popular plays and pantomimes. Bombed in 1910, it was reopened as a dance hall in 1915.

Lych-wake, see WAKE.

Lycia, mountainous country on the S.W. coast of Asia Minor, occupied an important place in the Homeric accounts of the Trojan war. It was originally peopled by two races, the Solymi and the Termilæ; afterwards it was conquered by the Persians and the Syrians, and then by the Romans. The prin. cities were Xanthus, Patara, Myra, Telmessus, and Phaselis, and during its independence it was ruled by a governor called the Lyciarch. Many interesting remains have been discovered in this region, the monuments and other antiquities showing a close relationship to the Gk. forms. See G. Grote, *History of Greece* (new ed. 12 vols.), 1869-70.

Lycian Language, see under INDO-EUROPEAN LANGUAGES.

Lycck, tn. of Poland (now Elk), stands on Lake L., 90 m. S.E. of Königsberg (now Chojna). Before the Second World War it had manufs. of machinery, mineral waters, etc. There is an old castle which belonged to the Teutonic knights situated on an is. in the middle of the lake. In 1915 it was occupied by the Russians and retaken by the Gers., and was taken by the Russians in early 1915. Pop. 18,000.

Lycomedes, king of the Dolopians in the is. of Scyros, a powerful people of Thessaly, who fought before Troy. Achilles was sent to L.'s court, disguised as a maiden, by his mother Thetis, who was anxious to prevent his going to the Trojan war. Here Achilles became, by Deidamia, the daughter of L., the father of Pyrrhus. L. treacherously killed Theseus by thrusting him down a rock.

Lycopene, red carotenoid pigment in tomatoes, rose hips, and many berries. It is the parent substance of all the natural carotenoids (so called from carotene, the pigment in carrots).

Lycoperdon, gen. of fungi, order Lycoperdaceæ. It has a double peridium, the outer wart breaking into warts, spines, scales, etc. *L. Bovista* is edible. The dry mass of threads and spores may be used as a styptic. *L. giganteum*, a large indehiscent

species, is also a styptic and has been used for tinder. *L. gemmatum* is the common puff-ball (q.v.). See also FUNGUS.

Lycophron (c. 260 B.C.), Alexandrian grammarian and poet, was a native of Chalcis in Eubœa. Ptolemy Philadelphus entrusted to him the arrangement of the Alexandrian library, and in the execution of this task L. drew up an extensive work on the Gk. comic poets. He is said to have been a skilful composer of anagrams, and also wrote sev. tragedies and an essay on comedy; but his *Cassandra* is the only poem which has come down to us.

Lycopodium, genus of plants known as Club Mosses. They form dense masses of verdure. *L. clavatum* is the Brit. Club Moss, and *selago* the Fir Club Moss.

Lyourgos (c. 825 B.C.), 'the legislator of Sparta,' was son of Eunomus, king of Sparta. Becoming guardian to his nephew, the infant king of Sparta, L. set out on extensive travels that he might not be suspected of ambitious designs. On his return he found the country in a state of anarchy and moral degeneracy. His countrymen welcomed him as their saviour, and besought him to put their state to rights. After fulfilling this task and giving Sparta the constitution and system of military training which laid the foundations of its greatness, he obtained an oath from the Spartans that they would change nothing before his return from further travels. That the constitution might remain permanently inviolate he departed into exile with the intention that it should be life-long. It is not known where or how he died. L. was honoured as a god and a temple was built in his honour.

Lyourgos (c. 390-329 B.C.), one of the ten Attic orators. He was of noble family, a disciple of Plato and Socrates, and one of the prin. supporters of Demosthenes as a patriot and an adversary of the Macedonian monarch Philip. He administered the finances of Athens for twelve years, and during this time he increased its revenue, beautified the city, and served the cause of literature by preserving in its archives copies of the plays of Æschylus, Sophocles, and Euripides. One only of his orations (that against Leocrates) is extant.

Lydd, bor. of Kent, 3 m. S.S.W. of New Romney. It is a corporate member of the Cinque Port of Romney. It has manufs. of the powerful explosive called lyddite (q.v.), and possesses a gov. artillery range and military camp. Pop. 2700.

Lydda, or El Ludd (Gk. Λύδδα, Heb. לוד), anct. city of Palestine, situated in the plain of Sharon, 11 m. S.E. of Joppa. It was renamed Diospolis in the second century A.D., and is referred to in both the O.T. and N.T. St. George is said to have been born and buried here, and in the fourth century a bishopric was instituted under his patronage. The church erected over his tomb has been repeatedly destroyed and rebuilt. It is the main junction of the gov. railways (the offices of which are at Haifa) and the chief Palestinian airport. After the inauguration of the Brit. mandatory regime in

Palestine, L. was the scene of frequent Arab outrages, particularly during the disturbances of 1929, 1933, and 1936-38. Pop. 17,700.

Lyddite, military high explosive, so called because it was manufactured at the munitions factory of Lydd in Kent. Chemically it is picric acid, $(C_6H_3(NO_2)_3-OH)$, and is prepared from phenol (carbolic acid) by the action of nitric and sulphuric acids. It is a bright yellow solid crystalline and bitter to the taste. Like cordite, it is difficult to detonate. It is poured into shells when molten, and on bursting gives pungent, suffocating fumes. Chemically it is related to T.N.T. or trinitrotoluene, $C_6H_2(NO_2)_3-CH_3$.

Lydenburg, or **Leydenburg**, one of the oldest tns. in the Transvaal, S. Africa, cap. of the L. dist. and situated on the trib. of Olifants R., 144 m. E.N.E. of Pretoria. The dist. is rich in gold deposits, chiefly alluvial. L. gets its name from the fact that the early *voortrekkers* from Potchefstroom to Ohrigstad were so stricken with fever that they moved 30 m. S. and called their next settlement 'L.' or 'the place of suffering.' Near L., which was for some years an independent republic until it became annexed to the S. African republic in the 1880's, the first gold-mining area of any size in the Transvaal was discovered and prospered until the Barberton field proved richer, though gold is still found in L. to-day. In the dist. of L. are two of the highest mts. in the Transvaal, Mt. Anderson and Mt. Maureberg, and the dist. is better provided with rivers than any other dist. in the prov. The tn. of L. does a thriving trade in agric. produce. There are Dutch and Eng. churches and a gov. school. The first Dutch Reformed church, built in 1861, is now a museum of *voortrekker* relics; the second, built in the eighties, is now a church hall, the third only does service as a church proper. Pop. (tn.) European, 5000; native 1600.

Lydford, par. in Devonshire, England, 11½ m. E. of Launceston. It was a walled tn. before the Conquest, and Judge Jeffreys held his Assizes at the castle. For many centuries it was the cap. of the Devonshire 'stannary,' owing to its important position on the edge of the great tin dist. of Dartmoor. Pop. 2000.

Lydgate, John (c. 1370-c. 1450), Eng. poet, was b. at Lydgate, Suffolk. After studying philosophy at Oxford, he travelled in France and Italy, where he became a master of continental poetry. L. was an admirer and imitator of Chaucer, his *Storie of Thebes* (1420-22) being represented as a new Canterbury tale; he produced many other poems, including *The Falls of Princes* (1494); *The Iystorie, Sege, and Destruction of Troye* (1513); *The Life of Saint Albon and the Life of Saint Amphibal* (1534); as well as works on a great variety of subjects, philosophical, scientific, and historical. See E. P. Hammond, *Chaucer and Lydgate*, 1912.

Lydia, in anct. geography, a country of Asia Minor, lying between the Ægean Sea and Mysia, its actual boundaries varying

considerably at different periods. The name *Ludd* is found among the inscriptions of an Assyrian king, Assur-bani-pal (c. 660 B.C.), who received tribute from Gyges, the first of the Mermaid dynasty of Lydian kings. Homer writes of the Meonians and their cap., Sardis; Herodotus states that the *Meiones* (Meonians) were called Lydians after Lydas, the son of the mythical Attila, whose dynasty preceded the Heraclidae. The last of the Heraclid dynasty, Candaules, was murdered by Gyges; the story in Herodotus of Candaules' wife is familiar. Gyges estab. the Mermaid dynasty (687 B.C.). He made war with Assyria, but was forced to pay tribute; he also sent troops to Psammeticus in Egypt. He was killed in an invasion of the Cimmerians in 652, and was succeeded by Alydes, and then by the latter's grandson, Alyattes, under whom L. became a great maritime power, gradually encroaching on the Gk.-Ionian Ius. of the W. coast, while an alliance between his daughter and Astyages brought peace with the Medes. The Cimmerians were finally subdued, and under his successor, Croesus, L. became an empire ruling all Asia Minor with the exception of Lydia. In 546 B.C., after fifteen years' rule, Cyr. captured Sardis and its king, and it became the W. cap. of the Persian Empire.

L.'s later hist. is, therefore, that of Persia and the Persian war with Greece. Under the Romans, it was part of the provincial prov. of Asia. At the period of its greatest prosperity L. was the industrial centre of the E.; possessing a healthy climate, wonderfully fertile, with the gold so long associated with the R. Pactolus, legend credited it with many inventions, and Lydian and luxury became synonymous. The earliest coinage was attributed to it, while dice and games of various kinds also were said to have first been played by the Lydians. Nature worship formed its religion, centring on the Great Mother, Cybele.

Lydian Language, see under INDO-EUROPEAN LANGUAGES.

Lydian Mode, the inhab. of anct. Lydia were noted for their effeminacy and voluptuousness. Hence the phrase L. M., meaning of effeminate, plaintive character. Cf. Milton, *L'Allegro*:

'Ever against eating cares,
Lap me in soft Lydian airs';

and Dryden, *Alexander's Feast*:

'Softly sweet, in Lydian measures,
Soon he sooth'd his soul to pleasures.'

Lydus, Joannes Laurentius (c. 490-565), Byzantine writer, b. at Philadelphia in anct. Lydia; at the age of twenty-one went to Constantinople and studied philosophy under Agapetus. None of his poetical works has been preserved; his prose compositions include *De Mensibus Liber*, a treatise on the Rom. calendar, and *De Magistratibus reipublice Romanae*.

Lye, Caustic is. are solutions of potash and soda; mild Ls., of their carbonates. Mother L. is the fluid remaining after crystallisation from solution.

Lye, The, par. in Worcestershire, England, 1½ m. E. of Stourbridge. There are coal-mines in the vicinity, and the manufs. of the dist. include fire-bricks, awls, and vices.

Lyell, Sir Charles, first Baronet (1797-1875), Brit. geologist, b. near Kilmuir in Forfarshire. He studied at Exeter College, Oxford, where he was attracted to geology by the lectures of Dr. Buckland, and in 1819 joined the Geological and the Linnean Societies of London, being elected secretary of the former in 1823. He was elected F.R.S. in 1826, and in 1830 pub. the first vol. of his *Principles of Geology*, the summary of which is given in the continuation of the title, 'being an attempt to explain the former changes of the earth's surface, by reference to causes now in action.' The second and third vols. appeared in 1832 and 1833 respectively, and the whole work was reprinted in four smaller vols. in 1834. The book was popular from the first, and by 1875 had run through twelve eds.; indeed it was one of the most important scientific productions of the nineteenth century. Besides this great work he pub. *Elements of Geology* as a supplement to the *Principles* (1838); *Travels in North America, with Geological Observations* (1845); *A Second Visit to the United States of North America* (1849); *The Antiquity of Man* (1863); and *The Student's Elements of Geology* (1871). He was prof. of geology at King's College, London, 1831-33, and president of the Geological Society, 1835-1836 and 1849-50. He was knighted in 1848, and created a baronet in 1864. His *Life, Letters, and Journals* appeared in 1881.

Lygetune, see LUTON.

Lykewake, or Lychwake, see WAKE.

Lyly, John (1553-1606), Eng. dramatist, b. in Kent. He took his degree of B.A. at Magdalen College, Oxford, in 1573, and his M.A. in 1575, but he also studied at Cambridge, and was incorporated M.A. at that univ. in 1579. The same year he first part of his *Euphues, the Anatomy of Wit* appeared, and he at once became famous. This was followed by *Euphues and his England* in 1580, which brought him under the notice of Lord Burghley, who gave him some employment. After this he wrote light plays to be performed at court by the children's acting companies of the Chapel Royal at St. Paul's, London, among which were *Campaspe* and *Sappho and Phao*, produced 1584. In 1589 he championed the cause of the bishops in the Martin Marprelate controversy (q.v.), and pub. a tract entitled *Pappe with an Halchit*. In 1589 he entered Parliament for Hinton, being subsequently elected for Aylesbury in 1593, for Appleby in 1597, and again for Aylesbury in 1601.

L.'s chief work was his *Euphues*, which, although a very tedious story, is remarkable for its prose style, which is chiefly characterised by a continuous straining after antithesis and a pigram. The novelty of this style was generally acknowledged in his own day, and received the name of 'euphuism.' L. also enjoyed some reputation as a writer of comedies, and is

described as 'eloquent and witty': but his plots are loosely fashioned, and his language artificial, the only attractive feature of his plays being the lyrics. Among his best comedies are *Alexander and Campaspe*, *Midas* and *Endymion*. See R. W. Bond (ed.), *Complete Works, with Life and Notes*, 1902; also C. G. Child, *John Lyly and Euripides*, 1894, and V. Jeffery, *John Lyly and the Italian Renaissance*, 1929.

Lyme Regis, seaport and watering-place of Dorset, England, stands on the Lyme near its entrance to the Eng. Channel. It was chartered by Edward I., and incorporated by Elizabeth; in 1685 it was the landing-place of Monmouth. Shipping, quarrying, and tourism are its chief occupations. The Lias rocks in the vicinity have yielded remains of the Ichthyosaurus and Plesiosaurus. Pop. 3400.

Lymington, seaport and watering-place of Hampshire, England, stands on the riv. of the same name, 12 m. S.W. of Southampton. Yacht-building forms the chief industry. Pop. of municipal bor. of L. 21,000.

Lymm, urban dist. of Cheshire, England, 5 m. E. of Warrington, Lancashire. Pop. 6800.

Lymph and Lymphatics. L. (lat. *lymphā*, water), slightly yellow, watery, somewhat salt, alkaline fluid pervading all the tissues of the body, and originating as an exudation of blood plasma from the capillaries. It is a medium acting between the cells and the blood, and performs a double function: conveying waste matter from the tissues to the blood and conveying new substance for the formation of blood. Chemically L. shows little difference from blood itself except in the red matter. It contains less protein, more chloride, and in it are corpuscles not distinguishable from the colourless blood corpuscles. Lymphatics are the vessels which carry the L. throughout the body. They absorb the waste products of tissues and collect the final products of digestion, the former then to be excreted by skin, lungs, and kidneys, the latter to renew the blood and tissue. The lymphatics of the small intestine are known as *lacteals*, and convey *chyle*. The structure of lymphatics resembles that of veins and arteries. The capillaries enter larger vessels, or the glands themselves, and form two sets; the superficial lymphatics lying immediately beneath the skin at the surface of the body, and the deep lymphatics in the interior of the body lying in the areolar tissue; the former communicate with the latter, which are larger. The final vessel of the lymphatic system is the *thoracic duct*, which enters the system of circulation at the junction of the subclavian and jugular veins on the left. Another much smaller duct, the right lymphatic, enters the right subclavian and conveys L. from the right side of the body from the chest upwards. The lymphatic glands are small, solid, kidney-shaped bodies, usually compared in size to variation from hempseed to the almond; there are again two sets, (1) in the thorax and abdomen, the deep set,

(2) the superficial set distributed in the groin, the ham, the armpits, and the neck. The lymphatics thus form a circulatory system regulated by valves, and, owing to direct connection with blood circulation, enforced by the heart.

Lymphangitis or inflammation of the lymphatics occurs with enlargement in the neck as an accompaniment to scrofula: *Rubo* is an affection in the groin. Lymphosarcoma may need surgical treatment. Since L. is so intimately concerned with the body cells and is in direct communication with the blood, the lymphatics are liable to bacterial infection and to poisoning.



LYMPHATIC GLAND

Showing lymph vessels entering and leaving

Lympe, vil. of Kent, England, 2½ m. W. of Hythe. An air station estab. here in 1915 was used for military purposes until the end of the first World War. It was then converted into a station on the route between the Continent and London. In 1919 it was being maintained as an airport by a charter company. L. was once a Rom. port, though not now on the sea. Pop. 700.

Lynceus: 1. In Gk. legend was the son of Argvptus and Argyphila, and married the Danaid, Hypermnestra. He became king of Argos, and was buried there near the altar of Zeus Phylxius. 2. In Gk. legend a son of Aphareus and Arene, was one of the Argonauts, and was famous for the keenness of his sight. He took part in the Calydonian hunt, and was slain by Pollux.

Lynchburg, city of Virginia, U.S.A., stands on the James R., 124 m. W. by S. of Richmond. It is the foremost Amer. tobacco market, and coal and iron are mined. Pop. 44,500.

Lynch Law, phrase denoting mob vengeance without form of law on a person suspected of having committed a crime.

At the present day it is heard of mainly in regard to the hanging of Negroes in the U.S.A. for assaults on white women, though actually sex offences account for less than one fourth of all the lynchings. The origin of the term is variously ascribed to the name of Col Lynch, who illegally whipped Tory conspirators in 1780 and to James Lynch Fitz-Stevens, mayor of Galway, who in 1493, acting on the classic precept of Brutus, tried his son for murder, and when prevented from publicly executing him, hanged him from the window of his own house. In Amer. law all present and consenting at a person's death by lynching are guilty of murder in the first degree unless the act were committed in sudden anger. Lynching was strongly condemned in the report of the S. Commission on the study of lynching issued in 1931. Ignorance, low economic status, and bigotry are assigned as factors responsible for lynching. Of all the lynchings in the previous forty years nearly 80 per cent were for non sexual offences, real or alleged, and sometimes men were lynched for political offences. The commission also found that L. L. was not necessary for the protection of white women. Mob leaders are rarely proceeded against owing to public indifference and the fact that the Negro has no vote where most lynchings occur. There were only three lynchings in 1939, the lowest since records were begun in 1882. Since that year there have been altogether 1659 recorded lynchings, the highest number in any year being 231 in 1892. Afterwards the number declined, there being 130 recorded in 1901, 83 in 1919 and 24 in 1933. During 1939 there were eighteen reported cases in which lynching was prevented by the transfer of suspects to secret jails or by the augmentation of guards. Two anti lynching Bills have been introduced in recent years, and the later was passed by the House of Representatives in 1940 and sent to the Senate.

Lynd, Robert (1879-1949), Brit. essayist and literary critic, b. in Belfast. He took his B.A. at Queen's College Belfast and from 1908 produced a series of books chiefly essays, among which may be mentioned *Home Life in Ireland* (1909), *The Art of Letters* (1921), *The Peal of bells* (1924), *It's a Fine World* (1930), *I Tremble in Think* (1936), and *Life's Little Oddities* (1941). L. was literary editor of the *New Chronicle*.

Lyndhurst, John Singleton Copley, first Baron (1772-1863), lord chancellor b. at Boston, Massachusetts. He was brought to England at an early age, and studied at Trinity College, Cambridge. In 1804 he was called to the Bar and joined the Midland circuit, and in 1812 became popular at Nottingham by defending a Luddite rioter, John Ingham. In 1819 he became chief justice of Chester, solicitor-general, and received the order of knighthood. He was attorney-general in 1824-26, and became master of the rolls in 1826. As Baron L. he was lord chancellor under three administrations. His first period of office was from 1827 to 1830, when he was made chief baron of

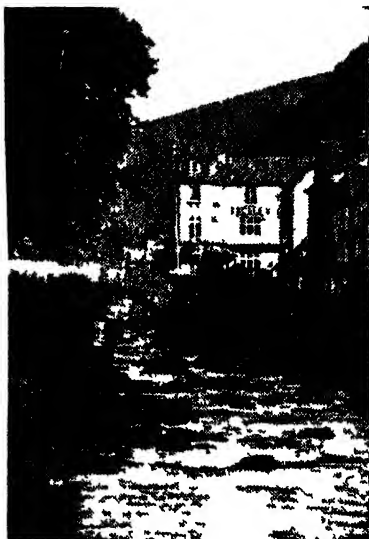
the exchequer. He was again lord chancellor, 1834-35, and took a leading part in the debates in the Lords, 1835-41. Chancellor for the third time, 1841-46. See life by Sir T. Martin, 1883.

Lyndhurst, vil. of Hampshire, England, is beautifully situated in the New Forest, 8 m. W.S.W. of Southampton. It contains the 'king's house,' or residence of the warden of the forest. Pop. 2500.

Lyndsay, Sir David, see LINDSAY, SIR DAVID.

Lyndsay of Pitcottie, see LINDSAY, ROBERT OF PITCOTTIE.

Lyne, Rev. Joseph Leycester, see IGNATIUS FATHER.



John H. Lyne

LYNMOUTH. THE RIVER LYN

Lynedoch, Thomas Graham, first Baron (1748-1843). Brit. general was the third and only surviving son of Thomas Graeme, laird of Balgowan, Perthshire. In 1793 he joined Lord Hood's fleet in the Mediterranean as a volunteer, and on returning home he raised a battalion known as the 'Perthshire Volunteers'. He became brevet colonel in 1798 and was appointed Brit. military commissioner with the Austrian Army in Italy, 1798. After the peace of Amiens he took up parl. duties until 1808, when he accompanied Sir John Moore to Sweden and Spain as aide-de-camp, being present in the Corunna retreat. His most memorable victory was the defeat of the Fr. at Barossa, March 1811, during the rest of the Peninsular war he acted as second in command to Wellington, and for his services was created Baron L. of Balgowan, 1814.

Lynmouth and Lynton, two picturesque vils. of N. Devon, stand on the Bristol

Channel, 12 m. E. of Hfracombe. Lynmouth is on the shore, at the base of a lofty cliff, and Lynton nestles on the hillside, 428 ft. above. A cliff railway has been built connecting the vils. Between 1934 and 1936 the National Trust acquired Watersmeet, comprising 366½ ac., mostly wooded, on both sides of the E. Lyn R. An additional 24 ac. of the S. and W. banks of the R. Lyn were purchased in 1946. Pop. 2000.

Lynn, seaport of Essex co., Massachusetts, U.S.A., stands on Massachusetts Bay, 10 m. N.E. of Boston. It has manufs. of machinery, car accessories, and metal garages; also foundries, wire goods factories, electrical machinery, and lamp factories, boot and shoe manufs., and large tanneries. Pop. 105,000.

Lynn Canal, inlet of the Pacific, off the coast of Alaska, is an important entrance to the Klondyke Region. It divides into the Chilkat and Chilkoot inlets, and at the head of the latter are Skagway and Dyea. Chilkat vil. stands at the junction of the two waterways.

Lynn Regis, see KING'S LYNN.

Lynx, name of a small N. constellation introduced by Hevelius in 1690; it lies between the great Bear and Auriga, N. of the Twins, and its ten brightest stars are of the fifth magnitude.

Lynx, general name for a widely distributed genus of fierce, bloodthirsty Felidae. Of the two European Ls., the N. L. ranges throughout Scandinavia and N.



LYNX

Russia, but is very scarce. The N. or small spotted L. is common in the less frequented parts of S. Europe. The African L., or Caracal (*q.v.*), occurs throughout the African continent, and there are four species in the New World. Ls. are larger than the true wild cats, and have long limbs, the tail is short, the ears are tipped with a tuft of hair, the cheeks are bearded. The soft, valuable fur is light brown or grey with darker spots varying according to species.

Lyon, Emma, see HAMILTON, EMMA.

Lyon Court, see LYON KING OF ARMS, THE LORD.

Lyonesse, scene of Arthurian romances, was a legendary country off the coast of Cornwall. It is described in early King chronicles as flourishing until its sudden disappearance beneath the sea. It was the scene of the 'last great battle of the West,' and of the final conflict between Arthur and Sir Modred. In an archaeological sense, L. is a submerged level off the coast of Essex, dating from the Early Bronze Age.

Lyon King of Arms, The Lord, permanent officer of state and prin. herald of Scotland. The origin of the office is lost in antiquity, and incorporates that of royal sennachie or bardic historian of the Celtic Scottish kings, of whom he was official inaugurator. The office and its duties are very ancl., for, according to Sir James Balfour Paul the L. K. of A. and his heralds and pursuivants attended at the coronation of Robert II. in 1371. Originally the functions of the office were mainly ministerial, *e.g.* they comprised the 'denouncing' war, proclaiming peace, and carrying public messages. His existing jurisdiction in regard to the inspection of arms and ensigns-armorial of the Scottish nobility and gentry was conferred by Acts passed in 1592 and 1672, and was expressly reserved by the treaty of Union. Formerly a Scots privy councillor, the lord L. is one of the king's lieutenants in Scotland; has management of all state and public ceremonial; is official advisor to the secretary of state for Scotland on these and heraldic matters, and has precedence of all knights. The title 'Lord L.' indicates a member of the Scots Gov., dates from the sixteenth century, and was ratified in Parliament. Like the similar titles, lord advocate, lord justice-clerk, etc., it is not used by the king of arms himself in addressing his servants. As comptroller of the messengers of arms, the lord L. is at the head of the whole executive branch of the law in Scotland; administers the law of name and change of name in Scotland; his certificates take the place of royal licence and deed-poll in England; is sole king of arms in Scotland, his armorial jurisdiction being both at common law and by statute; is president of the court of the lord L., dealing with matters of heraldry and genealogy, in which he has both civil and criminal jurisdiction. From this court appeal lies through the court of session to the House of Lords. The court of the lord L. is situated in H.M. Register House, Edinburgh.

Lyonnaise, anct. prov. of France, was bounded on the W. by Auvergne and on the S. by Languedoc, and the cap. was Lyons. It is now included in the depts of Rhône, Loire, Haute-Loire, and Puy-de-Dôme.

Lyons, Edmund, Lord (1700-1858), Eng. admiral. He was appointed flag-lieutenant on the *Minden* in 1810, and in the following year distinguished himself in an attack on the Dutch off the coast of Java. He received his commission as commander in 1812, and was advanced to post-rank in 1814; from 1828 to 1833 he was stationed

in the Mediterranean, and in 1835 he was appointed minister and plenipotentiary at the court of Athens. He took a prominent part in the attack on Sebastopol, and during the latter part of the Crimean war held the position of commander-in-chief of the fleet.

Lyons, Joseph Aloysius (1879-1939), Australian statesman, b. at Stanley, Tasmania, of Irish descent. A teacher by profession, he joined the Labour party in Tasmania, and in 1909 entered the Tasmanian Parliament, becoming Premier of



Press Portrait by means

JOSEPH A. LYONS

Tasmania in 1923. Returned as a Labour member to the Commonwealth Parliament in 1929, he joined the Scullin Gov. as postmaster general and minister for works and railways. In 1931 he resigned owing to disagreement with the gov.'s financial policy which he considered to be inflationist, and formed the United Australia party. In conference with the gov. he drew up, at the gov.'s request, the terms of a conversion loan which was accepted and which proved highly successful. When in the same year the gov. was defeated, L. became Prime Minister of a Coalition Gov. with the Country party. He was successful also in the elections of 1934 and 1937, being the only Australian Prime Minister to survive three successive appeals to the electorate. In 1935 he attended George V.'s jubilee celebrations in England, and in 1937 the coronation

ceremony, in which year he led the Australian delegation to the imperial conference. P.C. in 1932, he was made C.H., 1936. He was always insistent on the need for unity in the empire, especially in defence matters, and he made it plain only a month before his death that Australia would give full support to the mother country in the event of war.

Lyons, Richard Bickerton Pemell (1817-1887), Brit. diplomatist. In 1858 he was appointed Brit. minister at Washington, on the eve of the civil war. After three years of difficult negotiations his health broke down, and he was allowed to resign; he became ambas. at Constantinople in 1865 and at Paris in 1867. He was created Earl L. in 1887, but the title became extinct at his death.

Lyons (fr. Lyon, the anc. Lugdunum), city of France, cap. of the Rhône dept., at the confluence of the Rhone and Saône, 170 m. N.W. of Marseilles. It occupies an admirable position at the meeting-place of roads and railways, and is second only to Paris in commercial and military importance. It consists of a city proper on the peninsula between the rivs., and numerous suburbs on the l. b. of the Rhone and the r. b. of the Saône, surrounded by gardens and vineyards. Of the anc. buildings Notre-Dame de Fourvière is the most celebrated; but besides this there is the cathedral of St. Jean, begun in the twelfth century, one of the finest examples of Gothic architecture in France; the church of St. Martin d'Ainay, the oldest in L., dating from the sixth century; and the Hôtel Dieu, one of the chief charitable establs. in the city, said to have been founded in the sixth century. There are also Rom. remains, baths, tombs, and the relics of a theatre, and traces exist along the Rhone of a subterranean canal. It is the seat of a national court, of a univ. academy for the depts. Rhône, Loire, and Aix, and of an archbishop, bearing the title of 'Primate of All the Gauls.' There is also a school of medicine, a mint, a national observatory, a library of 110,000 vols., a museum, a botanic garden, a school of design, and a national veterinary school. It is a fortified tn., being the prin. fortress of the interior of France, and, like Paris, possesses a military governor. It has manufs. of all kinds, the most important being the silk industry in all its branches. There are also manufs. of machinery, copper, bronze, leather, starch, jewellery, iron goods, tobacco, hats, chocolate, and glass goods. Its trade consists in silk and silk goods, cloth, coal, and charcoal, metals and metal goods, wine and spirits, cheese, and chestnuts. L. was founded in 43 B.C., and became the cap. of Celtic Gaul, or the Lyonnais. It was rebuilt by Nero and also by Constantine, and was the residence of the Burgundian kings to the end of the fifth century. It was annexed to France in 1312.

There was fighting in the L. area in Aug. 1944, following the landing of the Allies in S. France (see WESTERN FRONT in SECOND WORLD WAR, Allied Landings in Southern France). Amer. and Fr.

forces entered L. on Sept. 3, 1944, on which date the Gers. had evacuated most of S. France between that city and the Atlantic. Ger. hopes of making a stand in the Rhone valley at L. were dissipated after troops of Gen. Patch's (q.v.) Seventh Army had crossed the riv. and its trib., the Ain (20 m. E. of L.). L. did not escape damage. The twelfth-century Pont de la Guillotière was destroyed, and the dome of the Hôtel Dieu by Soufflet was completely destroyed by fire. The dungeon and tower of the ruined Château-neuf-du-Pape were blown up by the Gers. Pop. 460,700.

Lyons, co. seat of Wayne co., New York, U.S.A., stands on the Erie Canal and the Clyde R., and has manufs. of silver ware and agric. implements. Pop. 3800.

Lyons, Gulf of, see LIONS, GULF OF.

Lyra (the Harp), one of the old constellations, representing the lyre of Mercury (Aratus), of Mercury or of Orpheus (Hyginus). It is surrounded by Cygnus, Aquila, Hercules, and the head of Draco. Its brightest star, a Lyrae, also called Vega, is of magnitude 0.1, being the third brightest star in the sky. Its proper motion is 35 in. per century. If a line be drawn through the middle of Cassiopeia, the pole star, and the middle of Ursa Major, this star may be seen nearly in the perpendicular to that line drawn through the pole star. When Aquila is known, a line drawn through its four neighbouring stars, α , β , γ , and δ , will pass through a Lyrae.

Lyrae, Alpha, see VEGA.

Lyre, most ancient of the stringed instruments of music. Though associated for us with the anct. Gks., who sang to its accompaniment the stories of the *Iliad*

of the Nile. The L. consists of a hollow sound-chest surmounted by two branching horns joined by a cross-bar to which the cords were attached. A plectrum of ivory or polished wood was used to touch the cords, which were of gut. The Gks. used tortoise-shells from India for their sound-chests, whence the name *chelys* (tortoise), the framework of the Egyptian L. was of wood. The troubadours accompanied their songs with the L. The *cithara* and the *phorminx* are often included in the term.

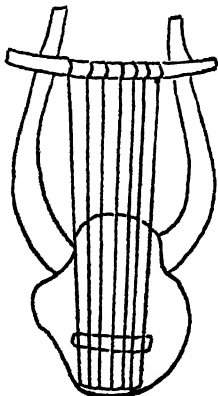
Lyre-birds, members of the passerine family Menuridae, which inhabit the forests and bush dists of Australia



LYRE BIRD

They are large birds with very stout beaks and short, rounded wings, the tail has sixteen rectrices, and in the males of some species the exterior pair of feathers are curved in the shape of a lyre, the tail of the female is long, broad, and normal in shape. L. live in the thick undergrowth or sandy gullies of forests, and feed upon insects, worms, and molluscs; they rarely fly, but run or strut with the tail spread horizontally. *Menura superba* is 33 in. long, and of a brownish colour, with bluish tinge. *M. victoria* has notch-like markings on the outer rectrices; and *M. alberti* is of a warmer, reddish colour. See A. O. CHISHOLM, *Birds and Green Places*, 1929.

Lyric (Grk. *lyra*, lyre, a musical instrument with seven strings). Lyric poetry among the ancients was so called because it was sung or recited to the accompaniment of music. L. poetry may perhaps be best described as that class of poetry which expresses emotion directly, and in this sense includes the ode, the sonnet, the elegy, the psalm, the hymn, and the song. 'In lyric poetry the poet gives vent to his personal emotions or experiences—his joy, sorrows, cares, complaints, aspirations, despair—or reproduces in words the impressions which nature or history has made upon him' (S. R. Driver, *Introduction to the Literature of the Old Testament*, 1891). Examples of L. poetry occur in the Vedantic hymns of India and in the Heb. psalms, but in Europe the art reached its zenith in Greece with the love



LYRE

and the *Odyssey*, the L. is probably of Asiatic origin. It was the instrument (*kinôr*) played by David and by the exiles in Babylon. The Gks. attributed its invention to their Hermes, who struck sounds from the dried cartilages of a tortoise-shell he picked up on the banks

songs of Alcæus and Sappho, the choral hymns of Pindar and Bacchylides, and the dramatic choruses of Æschylus, Sophocles, Euripides, and Aristophanes. If it be true that in succeeding ages the field of L. poetry widened in scope and variety of expression, it remains certain that no poets have surpassed the Gks. in sublimity of thought or passion of utterance. The most noteworthy of Lat. lyricists are Catullus, Horace, Tibullus, and Propertius, all of whom followed the models. The triumph of Christianity tended to dry up the sources of inspiration, though during the 'Dark Ages' a wealth of religious hymns was produced. During the Middle Ages the chivalric love L. was perfected by the troubadours and by the minnesinger of Germany. Chief among the latter is Walther von der Vogelweide (1170-1228), the author of *Frauenminne* and the glorious ode *Unter den Linden*. A century later Petrarch (1304-74) in Italy pub. his *Canzoni* which moulded the whole L. poetry of the Renaissance.

The poets of the Renaissance not only revived the external qualities of the classical tradition, but also returned to the ancient wells of inspiration. The odes of Ronsard (1550) follow closely the models of Pindar and Horace, while the sonnets of Shakespeare rank among the greatest of the world's literature. The seventeenth century witnessed a great outpouring of religious poetry, notably in England, where the chief names are John Milton, George Herbert, Henry Vaughan, and Richard Crashaw. In the eighteenth century the most famous lyricists are both Ger., Schiller (1759-1805), whose magnificent *Ode to Joy* was set to music by Beethoven, and Goethe (1749-1832), who wrote some fine Ls. during his stay at Strasbourg (c. 1770-1772). During the next century there was a wonderful flowering of L. poetry all over Europe. In England Keats's *Ode to the Nightingale*, Shelley's *Ode to the Western Wind*, and the love songs of Robert Burns are among the most splendid achievements of the human mind. Representative of the best Fr. work are V. Hugo's *Feuilles d'automne* (1831) and *Légende des siècles* (1856); the impressionist Verlaine's *Sagesse* (1881) and *Jadis et naguère* (1885); and Baudelaire's *Les Fleurs du mal* (1857). Of the Gers. in this period may be mentioned F. Rückert's *Frühling d'amour* and *Poésies lyriques*; E. Mörike's *Gedichte*; and the *Nachts* and *Waldegespräch* of J. von Eichendorff, the greatest lyricist of the Ger. romantics. There is a preference in modern poetry for the shorter L. presenting brief emphasised impressions, generally of everyday life. The effect is produced by clever and apt imagery, a whole technique in itself, which seems to give intuitive, if fleeting, visions of transient experiences, moods, or passions. Such are the Ls. of Robert Bridges, Gordon Bottomley, and Thomas Hardy. The popularity of the short L. to-day is partly due to a reaction from the literal interpretation of Wordsworth, who stated that 'poetry is the impassioned expression on the face of science.' Much learning

and scholarship are evident in the verse of the great Victorians, but it is now generally held that this attitude towards nature is not appropriate to the poet, and the fashion to-day is to discount scientific knowledge altogether as a necessary part of the poet's endowment.

At the end of the nineteenth century Ernest Dowson, Lionel Johnson, and A. E. Housman were leaders of a group of poets who strove to capture the spirit of the dying romanticism in Ls. which excluded the problems of morality and philosophy in favour of brief poignant lines imaging their own moods or moments of experience. But if they were often concerned largely with symbols they could express profound emotions with striking brevity. More open to criticism are the 'Georgian poets,' and particularly Rupert Brooke, whose poetry is often said to lack profundity and to subordinate the deepest emotions to pretty verses; but much of the revolt against the Georgians sprang from the belief that poetry in the modern world must discover a new manner, and even some writers who began with lyrical and melodious verse abandoned it for an expression nearer to the temper of modern life.

It is not without significance that the short L., in its implicit philosophy of life, often carries us far beyond the immediate subject into the 'music of the spheres,' as is exemplified in Siegfried Sassoon's *Everyone Sang*, or J. Elroy Flecker's *Tenebris interlucentem*; and this reaching out to the infinite is marked in the verse of Thomas Hardy. It is to be noted, too, that much of the best work of John Masefield is to be found, not in his long narrative poems, striking and powerful as these are, but rather in his fugitive Ls., in which latter he led the way for poets like Rupert Brooke, Siegfried Sassoon, Julian Grenfell, and Robert Graves. In the latter-day Irish literary movement, culminating in W. B. Yeats and 'A.E.' (George Russell), there are to be found a number of splendid Ls., albeit far from Irish in sentiment or theme. Among the best of these are Yeats's *The Song of Robin Goodfellow* and the well-known *Lake Isle of Innisfree*. Neither of these two poets has had much influence on the development of the main current of Eng. poetry; but it is otherwise with such poets as A. E. Housman, John Davidson, and Swinburne, though the last-named belongs rather to an earlier generation than that with which we are dealing. Housman's famous *A Shropshire Lad* is really a collection of some sixty-three short Ls., and it was chiefly through the influence of Housman that the brisker, brighter L. measures were restored to popularity and that the realisation grew that it was possible to express solemn emotion in forms other than the sonnet. John Davidson, though not of the ultra-moderns, was in advance of his time, and perhaps for that reason has sunk into a most unmerited oblivion; for with Housman, Bridges, and Hardy he had much to do with setting the minds of the young poets of the twentieth century exploiting new subjects and new methods

of treatment. Of Davidson's shorter poems may be mentioned *The Escaped Nun*, *Piper play*, and *The Runnable Slog*, all of which will be found to have had their influence on modern verse. Among other good modern Eng. Ls. may be mentioned Elroy Flecker's *Queen's Song*, W. H. Davies's *Where she is now*, Walter de la Mare's *Songs of Childhood*, and J. C. Squire's *The Ship*.

Among continental lyricists of to-day are Sophos Claussen, Ludvig Holstein, and Johannes Jorgensen, all of Denmark and generally of the Symbolist school; Verhaeren and Cammaerts of Belgium; Stefan George, Dehmel and Karl Broger of Germany; Jean Cocteau of France, an experimentalist; R. M. Rilke of Germany; the Russian A. Pushkin; and Campoamor of Spain; and of the work of Amer. poets some of the best Ls. are those of Wm. Wilfrid Campbell and Robert W. Service, both Canadian, and Ina Donna Coolbrith of the U.S.A. See also BALLAD; HYMNS; METRE; DRAMA; POETRY; also articles on the literature of the various nations. See G. Hegel, *Die Phanomenologie des Geistes*, 1807; F. T. Palgrave, *Golden Treasury*, 1861; G. Saintsbury, *Seventeenth-century Lyric*, 1892; J. and C. Massfield, *Lyrics of the Restoration*, 1906; E. K. Chambers, *Early English Lyric*, 1907; A. Gowers, *Lyric Masterpieces of Living Authors*, 1909; E. Ithys, *Lyric Poetry*, 1913; R. H. Strachan, *The Soul of Modern Poetry*, 1922; H. Brémond, *Précis et poésie*, 1926; Iola A. Williams, *Poetry of To-day*, 1927; H. J. Grierson, *Lyric Poetry from Blake to Hardy*, 1928; and A. Closs, *The Genius of German Lyric*, 1938.

Lyric Theatre, situated in Hammer-smith, London, and reopened soon after the First World War by Mr. (later Sir) Nigel Playfair, who, in collaboration with Arnold Bennett, revived a number of period plays and ballad operas. The most successful venture was Gay's *The Beggar's Opera*, which enjoyed a phenomenal run. Here too Sir Barry Jackson produced Drinkwater's *Abraham Lincoln* (1919). In 1945 control was assumed by the Company of Four, connected with the Arts Council; plays by European authors, including Sartre, Cocteau, and Molnar, have been presented.

Lys, or **Lez**, riv. of France and Belgium, rises in the Fr. dept. of Pas-de-Calais, and flows 130 m. N.E., joining the Scheldt at Ghent. It is navigable for about 100 m., and canalised for 44 m. Its water is famous for use in retting flax.

Battle of the Lys.—The second phase of the final Ger. offensive in the First World War (April 9–29, 1918), the first phase being the second battle of the Somme, begun on March 21. Both phases are called the battle of Picardy in Fr. official documents, the names L. and Somme being those adopted by the Battles Nomenclature Committee of the Brit. War Office. The L. battle, so far as the Brit. Armies were concerned, began with a gigantic Ger. effort between Arras and Ypres, with the object of separating the armies of Gens. Horne and Plumer, and the severest fighting took place near

Hazebrouck (q.v.), Kemmel Hill (q.v.), Passchendaele (q.v.), and Messines (q.v.). For details see FRANCE and FLANDERS; FIRST WORLD WAR, CAMPAIGNS IN, 1918.

Lysander (Λυσαιδης), Spartan soldier, was probably of servile origin, but his ability marked him out for great things, and in 407 B.C. he was chosen to command the fleet against the Athenians. Fixing his headquarters at Ephesus, he soon obtained great influence, not only with the Gk. cities but also with Cyrus, who supplied him with large sums of money. He was, however, superseded by Callicratides in 406, as the Spartan law did not permit the office of admiral to be held twice by the same man; but when Aracus was sent out in 405 as commander-in-chief, L. was made vice-admiral, being in reality invested with supreme command. It was in this year that he brought the Peloponnesian war to an end by the defeat and capture of the Athenian fleet off Egospotami, and followed this up by seizing Athens in 404, destroying her long walls and the fortifications of the Piræus, and establishing the oligarchy known as the Thirty Tyrants. He was by this time the most powerful man in Greece, and began to conceive the idea of bringing about a change in the Spartan constitution by abolishing hereditary royalty and making the throne elective, but his enterprise was cut short by his death. He perished at Halartus in 395, when commanding one of the Spartan armies in the Boeotian war.

Lysander. The Westland L. was designated to a 1934 R.A.F. specification for an army-co-operation two-seater, was



LYSANDER

Westland Lysander in its air sea rescue form. An inflatable rubber dinghy and supply containers are carried on the wings attached to the wheel spats, while smoke floats for giving wind direction are carried under the rear fuselage.

completed in 1936, and was in service at the beginning of the Second World War. Metal construction was used for the L., with fabric covering for parts of the wings and fuselage. The pilot sat in front of the wing and the observer behind, where he could operate the radio and a movable gun. For army-co-operation duties a

hook was fitted under the fuselage for picking up messages suspended between posts on the ground. Special slots and flaps (q.v.) on the wings allowed it to fly slowly and land in very small spaces, so that small advanced fields could be used. Used in France at the beginning of the Second World War, and also in the W. Desert, for artillery observation work, it was superseded by other types before the allied invasion of Europe. Because of its excellent slow-flying qualities, the L. was fitted with extra tanks to increase its range and used for espionage work. Not only were supplies dropped from it, but it was also landed in small fields at night to pick up Brit. agents. Another job was that of air-sea rescue; stationed round the coast were isolated L. units in radio contact with operational control, and when an aeroplane was reported down in the sea, the L. was sent out with inflatable rubber dinghies and supplies which were dropped in the sea near the airmen. Its final duty with the R.A.F. was that of target towing for air-to-air and anti-aircraft gunnery practice. Powered by an 850-h.p. Bristol Mercury air-cooled radial engine the L. had a maximum speed of 217 m.p.h. at 5000 ft. and a slowest speed of 110 m.p.h. with full load. The loaded weight was 6,300 lb.

Lysenko, Trofim (b. 1898). Russian biologist and agriculturalist, president of the Lenin Academy of Agric. Sciences, b. at Karlovka, Ukraine. He continued the work of his fellow countryman Michurin in practical plant breeding. It is reported that he denies the validity of the results in genetics obtained by Gregor Mendel, T. H. Morgan, and the Neo-Mendelians, i.e. the chromosome theory of heredity which most biologists now consider to rest on a firm basis of fact. L. maintains that heritable changes can be brought about in plants by environmental influences such as vernalisation (subjection to extreme temps.) of wheat, and by grafting (the scion being supposed to influence the stock, and vice versa). This is, in other words, the argument of nature versus nurture; L., in accordance with the general ideas of Marxism and Communism, believes that nurture is all-important, and that acquired characters can be inherited, a theory which has not yet been disproved by biologists, though few subscribe to it at the present time. European and Amer. workers say that L.'s experiments are not performed with adequate precautions, and in particular that he neglects (1) to use pure-breeding stock; (2) to employ adequate control experiments; (3) to subject his results to statistical analysis. Dr. Eric Ashby, who has actually examined L.'s experimental plots, reports that the variability of his experimental material is very great, and that it would of itself account for his results. At the time of writing (1949) the controversy remains unsettled. See the article by Dr. J. Huxley in *Nature* (June 18, 25, 1949, in which the relevant literature is fully quoted. See also BREEDING; GENETICS; LAMARCKISM; HEREDITY; MENDELISM.

Lysias (Λυσίας) (c. 458-378 B.C.), Attic orator, b. at Athens, though his father was a Syracusan, Cephalus. At the age of fifteen he was sent with his brothers to Thurii in S. Italy, where he studied under the rhetorician Tisias. About 412 he returned to Athens, but was accused in 404 of being an enemy of the existing gov., and was forced to flee to Megara. He went back to Athens, however, after the fall of the Thirty, and gave his time to the lucrative occupation of writing legal speeches for others, after obtaining high repute as an orator, in 403, by his accusation of Eratosthenes, the murderer of his brother. L. wrote a great number of orations, but only about thirty-five are extant, and of these perhaps not all are genuine, and the only one delivered by him in person was that against Eratosthenes. He is the first really classical orator of the Gks., and his speeches are remarkable for the purity and simplicity of their language, the skill shown in always adapting style to subject, the lucidity of their description, and above all for their striking delineations of character.

Lysimachus (360-281 B.C.), Gk. general under Alexander, was a Macedonian by birth, and was early promoted to attendance on the king. After the death of Alexander, Thrace and the neighbouring countries as far as the Danube were assigned to L., who extended his kingdom still further and founded the city of Lysimachia on the Hellespont. In conjunction with Seleucus he defeated the combined armies of Antigonus and Demetrius at Ipsus (301 B.C.). He obtained possession of Macedonia (286 B.C.) and retained it until his death which occurred on the plain of Corus during a battle against Seleucus.

Lysippus (c. 336-270 B.C.), famous Gk. sculptor, was originally a workman in bronze, and most of his statues were executed in that medium. He was the first to introduce portrait sculpture, and made many representations of Alexander the Great. None of his works is extant. See study by F. Johnson, 1928.

Lysozyme, see under FLEMING, SIR ALEXANDER.

Lyte, Henry Francis (1793-1877), Brit. hymn-writer, b. at Ednam, Scotland, of an ant. Somersetshire family. He entered holy orders, and held sev. curacies; afterwards he had charge of Lower Brixham for twenty-five years. His health compelled him to reside abroad, and he died at Nice, and is buried there in the Eng. cemetery. L. is the author of *Abide with me, Praise, my soul, the King of Heaven*, and other well-known hymns.

Lytham, par. and tn. of Lancashire, England, on the R. Ribble, 8½ m. N.E. by S. of Blackpool. It is a favourite watering-place, and has a pier 900 ft. long. In 1922 the urban dists. of L. and St. Anne's were incorporated to form the municipal bor. of L. St. Anne's. Pop. 30,600.

Lyttelton, Alfred (1857-1913), the eighth son of the fourth Lord L., was educated at Eton and Trinity College, Cambridge.

In 1895 he was elected member of Parliament for Leamington in the Liberal-Unionist interest and held this seat until 1906, after which he became member for St. George's, Hanover Square. From 1903 to 1905 he was secretary of state for the colonies, and was subject to much criticism on his conduct of S. African affairs. He was a famous athlete in his day, playing cricket and football for England. He was also tennis champion (1882-95).

Lyttelton, George, first Baron Lyttelton (1709-73), the eldest son of Sir Thomas L., baronet, of Hagley, Worcestershire. In 1735 he entered the House of Commons as member for Okehampton, and soon acquired considerable reputation as an orator and statesman. He held many important offices, and was raised to the peerage in 1756. He produced many vols. of poetical and historical works. His memoirs and correspondence were pub. in 1845.

Lyttelton, port of S. Is., New Zealand, 5 m. S.E. by E. of Christchurch. The entrance to the harbour is more than 2 m. wide, and is protected by two breakwaters. There is a lighthouse at Godley Head, on the N.W., visible 29 m. The port is approached from Christchurch by road and rail, the latter a direct route through a tunnel; a tunnel road is planned. Pop. 4058.

Lyttelton, Oliver (b. 1893), Brit. statesman and industrialist. He was educated at Eton College and Trinity College, Cambridge. After military service in the First World War he became managing director of the Brit. Metal Corporation, and held directorships in numerous companies. He was elected Conservative member for Aldershot in 1910. During the Second World War he was controller of the non-ferrous metals branch of the Ministry of Supply, 1939-40; minister of state and member of the War Cabinet, 1941-42; minister of production and member of War Cabinet, 1942-45; and president of the board of trade and minister of production, May-July 1945. After the Conservative defeat in 1945 he became chairman of Associated Electrical Industries Ltd. His experience in industrial organisation and supply was of the utmost value to the wartime gov.

Lytton, Edward George Earle Lytton Bulwer, first Baron Lytton (1803-73), Eng. novelist, playwright, and statesman, was a man of unusual versatility. He was educated at a private school and afterwards at Trinity College, Cambridge, where he greatly distinguished himself. Finding it necessary after his marriage to augment his income, he took up his pen, and after contributing to many periodicals turned to novel writing. *Falkland* appeared in 1827, and in the following year he pub. *Pritham*, an excellent and amusing book, and *The Disowned*. Eugene Aram was issued in 1832. *The Last Days of Pompeii* in 1834, and *Rienzi* in 1835. In 1838 *The Lady of Lyons* was produced at Covent Garden, and his other successful plays were *Richelieu* (1839) and

Money (1840). His popular historical novel, *The Last of the Barons*, came out in 1843, and five years later was followed by *Harold*. L. had been in Parliament since 1831, and became (1858-59) secretary of state for the colonies. He was raised to the peerage in 1866. Of his other books the best were *The Cartons* (1850), in which the influence of Sterne is very clearly to be seen. *A Strange Story* (1862), *The Coming Race* (1871), *Kenelm Chillingly* (1873), and *The Parisians* (1873), unfortunately incomplete. L. had a keen sense of character, a sufficiency of historical lore, a knowledge of life and society, and all these qualities he pressed into his service. See lives by T. Cooper, 1873; second earl of Lytton, 1913; also *Letters to His Wife*, 1884, and M. Sadleir, *A Panorama*, 1931.

Lytton, Edward Robert Bulwer, first Earl of Lytton (1831-91), Eng. statesman and poet, son of Bulwer-L., first Baron L., the novelist, entered public life as private secretary to his uncle, Lord Dalling, at Washington and Florence. He was subsequently attaché at The Hague and Vienna, at which last city in 1862 he was second secretary of the legation. He served at Copenhagen (1863), Athens (1864), Lisbon (1865), and at Madrid and Vienna (1868-72), becoming in the last year secretary to the Paris embassy. He succeeded to his father's barony in 1873 and went out to India as viceroy (1876-80), when in 1877 he proclaimed Queen Victoria as empress. On his return he was raised to the earldom. From 1887 to 1891 was ambas. at Paris. Like all the Ls. he had a love of literature, and in 1855, under the pseudonym of 'Owen Meredith,' he pub. *Cytemnestra and other Poems*. *The Wanderer* in 1857, and *Lucile* three years later. *Chronicles and Character* appeared in 1868, and *Ordeal*, or *The Fool of Time* in 1869. His poetry was always much admired, and he had a lyrical gift, though some of his longer pieces are somewhat dull. *King Poppy* (pub. posthumously, 1892) is usually regarded as his masterpiece.

Lytton, Sir Henry (1867-1936), Eng. actor, the 'Savoyard' who for forty years delighted audiences with his acting in Gilbert and Sullivan operas. Making his début in *Princess Ida* at the age of seventeen, in three years he was promoted to the Savoy Company, proceeding thence to the D'Oyly Carte Company, with which he remained many years. He was especially notable in the role of Jack Point. On retirement in 1934 he received a national testimonial, the presentation being made by Mr. Lloyd George, the signatories including Mr. Ramsay MacDonald and Mr. (later Earl) Baldwin. See his *Secrets of a Savoyard* (1922) and *A Wandering Minstrel* (1933).

Lytton, Victor Alexander George Robert Bulwer-Lytton, second Earl of (1876-1947), Brit. governor, statesman, and author; b. at Simla, son of first earl of L., and educated at Eton and Trinity College, Cambridge. He began his public career in 1901 as private secretary to George

Wyndham, chief secretary for Ireland; civil lord of the Admiralty, 1916 and 1919; Brit. commissioner for propaganda, France, 1918; parl. under-secretary of state for India under Edwin Montagu, 1920; he was appointed to an India Office committee on the political claims of Burma and earned a reputation for sympathy with Indian aspirations. Governor of Bengal, 1922-26; for four months in 1925 he acted as governor-general, being proclaimed viceroy on the forty-ninth anniversary of his father's assumption of office. His office in India was rendered difficult through preoccupation with the maintenance of law and order against terrorists and 'non-co-operators.' L. will, however, best be remembered for his sustained labours for international goodwill and understanding through the agency, after the First World War, of the League of Nations and, after the Second World War, of the United Nations Organisation. On his return from India he co-operated closely with Lord Cecil of Chelwood in the work of the League of Nations Union. In 1927-28 he led the Indian delegation to the League Assembly, Geneva, and was a member of the Brit.

delegation, 1931. In 1932 he was appointed chairman of the League of Nations mission to Manchuria to investigate Japan's seizure of that prov. His report on this major infringement of the League Covenant condemned the action of the aggressor, but it failed to prompt the powers to any action stronger than censure. Later he worked hard for the formation of the United Nations Association and became its chairman. Notwithstanding these duties he continued his association with the Trust House movement, the promotion of popular social clubs, and the care and education of state-aided children. He was also keenly interested in housing and tn.-planning, being president of the Garden Cities and Tn. Planning Association, and in the movement to popularise good drama and opera, being chairman of the Old Vic Association and president of the Central School of Speech Training in Dramatic Art. In addition to a biography of his grandfather, the novelist (1913) and Indian reminiscences (1942), he wrote *New Treasures* (1934), *The Web of Life* (1938), and *Love Incarnate*, a harmony of the Gospels (1946).

M

M is the thirteenth letter in the alphabets of W. Europe. It also was the thirteenth letter in the N. Semitic alphabets (see *under* ALPHABET), but it is the twelfth in the Gk., the eleventh in the Etruscan, the twelfth in the Lat., and the fourteenth letter in the early Slavonic alphabets. In the N. Semitic alphabets, as well as in the early Gk., Etruscan, and Lat. alphabets, which were written from right to left, it was written *m*. In early Crete, Chalcis, and its colonies it was drawn with five strokes, so *MM*. In the cursive Rom. writing of the first century A.D., as we meet it in the wall inscriptions and in the waxed tablets of Pompeii, the vertical (slightly oblique) four-stroke *M* (III) was preferred. In the Rom. uncial script, which appears from the third century A.D. onwards, it has the typical rounded shape (*m*), which is the main feature of the uncial hand. Roughly at the same time the cursive minuscule assumes a form similar to the modern small *m*. Like *b*, to which it is closely related, *m* is pronounced with both lips (bi-labial). Curiously enough, *b* is sometimes slipped in after *m*, as in the Gk. *Μαθηματικα*, noon, and the Fr. *nombre* from Lat. *numerus*, number). Unlike *b*, however, *m* is nasal.

M, used by the Romans for the numeral 1000. Their word for mile was *mille passus* (a thousand paces), and the initial letter is commonly considered as having become a symbol for the number.

Maas, see MEUSE.

Maasejck, or **Maeseyck**, tn. on the Meuse, 10½ m. S.W. by W. of Roermond in Limburg, Holland. The brothers Van Eyck were *b*. here. Pop. 4600.

Maasin, port at the mouth of the M., on the S.W. of the is. of Leyte in the Philippine Is., which exports hemp, copra, and tobacco. Pop. 29,300.

Maassluis, port for herring-fishing, on the Nieuwe Waterweg, 10½ m. W. of Rotterdam in Holland. Pop. 7800.

Maastriicht, or **Maestriicht** (anct. *Trajectus Superior*, upper ford), cap. of the prov. of Limburg, Holland. It lies 19 m. N.N.E. of Liège by rail, and except for the suburb, Wilk, which is reached by a stone bridge, is situated on the l. b. of the Maas. There are metal works and manufs. of wine, beer, earthenware, paper, and cigars, etc. The failure to blow up two bridges over the Albert Canal, a result of fifth-column work, was the beginning of the gap in the allied line which led to disaster, in May 1940. Pop. 73,800.

Maat, in Egyptian mythology, the goddess of law and order, and also of truth, the counterpart of Thoth (*q.v.*). She was the daughter of Ra, the Egyptian sun-god. The name itself signifies order and as 'life by rule' was recognised as imperative by all classes in anct. Egypt,

M enjoyed an almost supreme position. She is associated with Ptah (*q.v.*) and Khnum, anct. Egyptian cosmic deity and personification of creative force, in the creation of the universe and the evolution of order out of chaos. The Gks. identified her with Themis.

Mab, **Queen**, queen of the fairies, and Oberon's wife, according to the *Nymphidia* of Drayton and the *Hesperides* of Herrick. Shakespeare, in *A Midsummer Night's Dream*, gives the honour to Titania.

Mabalakat, tn. to the S.S.E. in Pampanga, Luzon, the Philippine Is., connected by rail to S. Fernando. Pop. 40,000.

Mabillon, Jean (1632-1707), Fr. historian, entered the Benedictine order in 1653, and from 1664 onwards was engaged in editing a colossal number of MSS. at the abbey of Saint-Germain-des-Prés in Paris. The result of his investigations was his *Acta Sanctorum ordinis S. Benedicti* (1668-1702), a monumental hist. of the order. His monograph entitled *De Re Diplomatica* (1681) laid the foundations of Lat. palaeography. See J. U. Brinkman, *Mabillon and the Benedictine Historical School*, 1928, and G. Heer, *Jean Mabillon und die Schreiber Benediktiner*, 1934; also monographs by T. Rulnart, 1939 (new ed. 1953), and E. de Broglie, 1888.

Mabinogion, **The**, is another name for the *Red Book*, which was trans. into Eng. and ed. by Lady Charlotte Guest in 1838-1849. *The Red Book of Ihergest* is an invaluable MS., now preserved in Jesus College, Oxford, and containing eleven prose tales of Welsh literature and also a romance entitled 'Hanes Taliesin.' The MS. belongs to the fourteenth and early fifteenth centuries. Three of the stories, 'The Lady of the Fountain,' 'Peredur,' and 'Gereint Son of Erbin,' deal with the Arthurian legend. 'Culhwch and Olwen' and 'The Dream of Rhonabwy' are termed mixed romances, Irish mythology and the deeds of Arthur being freely intermingled. 'Pwyll,' 'Branwen,' 'Manawydan,' and 'Math' are purely Irish in origin. The remaining two stories, 'Lludd and Llofelys' and 'The Dream of Macsen Wledig' refer apparently to the period of Rom. settlements in Britain. See G. and T. Jones (editors), *The Mabinogion* (Everyman's Library), 1949; also eds. by J. Evans, 1907; I. Williams, 1930; and M. Richards, 1948. Trans. by T. P. Ellis and J. Lloyd, 1929.

Mablethorpe and **Sutton**, urb. dist. and seaside resort of Lincolnshire, England, 7 m. N.E. of Alford. A Rom. villa and a submerged forest appear to view at very low tides. Pop. 4890.

Mabuse, Jean (c. 1470-c. 1531), Flem. painter, really Jan Gossaert, was called Mabuse after his bp., Maubeuge. His 'Adoration of the Magi' in the National

Gallery, London, and 'The Upright Judges' in Antwerp are in his early and purely Flem. style, but his triptych of 'Adam and Eve' (1516) in the Berlin Gallery shows the influence of his sojourn in Italy. Thither he went in 1508 in the company of Philip of Burgundy, his patron, and there he copied the masterpieces of Leonardo da Vinci and Michelangelo. See also FLEMISH ART. See M. J. Friedländer, *Von Eyck bis Brueghel*, 1923; also monographs by E. Weiss, 1913, and A. Ségard, 1923.

Mac, Gaelic prefix signifying 'son of,' like the Norman 'Fitz' in Fitzmaurice, the Irish 'O' in O'Grady, and the Welsh 'Map' or 'Ap' in ApRichard ('Pritchard'). MacGregor and MacLean are common examples. A confusion with *magnus* probably accounts for the meaning of 'great' which 'Mac' sometimes seems to bear.

Macadam, Elizabeth (1871-1948), Scottish social worker and writer. Served her apprenticeship in the Women's Univ. Settlement in Southwark, where she trained many generations of social workers. Her three books, *The Equipment of the Social Worker* (1925), *The New Philanthropy* (1934), and *The Social Servant in the Making* (1945), reflect the development of her ideas as a convinced propagandist of training as well as a particularly well-informed and open-minded commentator on social legislation and administration.

McAdam, John Loudon (1756-1836), Scottish inventor, has given his name to the surfacing of roads with granite or other durable stone broken small enough to make a hard, smooth surface, suitable for traffic. In 1816 he successfully 'macadamised' the Bristol roads. He was appointed surveyor-general of metropolitan roads in 1827 and granted £10,000. See life by R. Devereux, 1930.

McAdoo, William Gibbs (1863-1941), Amer. politician, b. in Georgia, a prominent figure in the Democratic party, and an able assistant to President Wilson. Secretary to the Treasury from 1913 to 1919. He was responsible for far-reaching financial reforms, such as the Federal Reserve Banking Act, and, during the war, the introduction of a thrift system by which he secured from 500,000,000 to 700,000,000 dollars every fortnight to provide for the huge Amer. war expenditure. Much interested in railway problems, he was the author of the scheme for constructing the series of tunnels in New York city under the Hudson R. from the New Jersey side to Manhattan Is.

McAlester, tn. of Oklahoma, U.S.A., co. seat of Pittsburg co. There are large oilfields, coal is mined, and natural gas is plentiful. Other manufs. include cotton processing, foundries, and railway workshops. There is an airport. Pop. 12,400.

MacAlpin, Kenneth, see KENNETH I. **Macao** (Chinese *Aman-gao*, harbour of the goddess Ama), Portuguese dependency in China, at present held in virtue of a treaty with China of Dec. 1, 1887. The tn. lies on a peninsula flanking the W. side of the mouth of the Canton R., and with

its gaily painted level roofs presents an attractive appearance to European eyes. Practically all the inhab. are Chinese. The main industries and exports are dried fish, matchboxes, and fire crackers. But it is gold on which M. most depends; for Portugal, having signed no monetary agreements, can still conduct a free market in the metal. With Timor it is the see of a Rom. Catholic bishop. The façade of the former cathedral church of St. Paul is all that remains of a baroque church burnt 100 years ago in a typhoon. Portuguese factors settled here as early as 1557. Area 6 sq. m. Pop. 374,700 (including 8900 Portuguese).

Macaque, group of monkeys, *Macacus cynomolgus*, the common M. of the Malayan archipelago, is representative of the long-tailed section of the genus, *M. inuus*, or the Barbary ape, is a species which is found in N. Africa and on the rock of Gibraltar. *M. silenus* is the warden of India. All species are of stout build, the body large in proportion to the limbs, shoulders abnormally developed, longish muzzle and cheek pouches, large callosities on the buttocks, tail long or short or absent. They live in troops in the forests and are most active. Good-tempered when young, they become savage and brutal as they grow older.

Macaroni (It. *maccaroni*, perhaps from obsolete *maccare*, to bruise), form of wheat paste whose manuf. was for a long time exclusively confined to Italy, where it is an important article of diet. A particular variety of wheat is required for this purpose, i.e. the hard kind which contains a large percentage of gluten. At one time the M. was made by hand but this practice has been superseded by machinery. The wheat is ground into a *semola*, or coarse meal, from which the bran is removed; this is worked into a dough with water, and afterwards forced through a cylinder, generally into tube shapes, but also into sheets, etc. Vermicelli differs from M. only in thickness and shape. Spaghetti is made of the same paste as M., but pressed out into a solid, cord-like form thicker than vermicelli.

Macaronic Verse, species of burlesque, the humour of which depends partly on tacking Lat. suffixes on to all the words so as to suggest the dignity of Lat. poems, and thus turn the rhyme into a mock-heroic. Two lines from *Polemio-Middinta* (1684), which is attributed to Drummond of Hawthornden, are quoted:

'Macaronem, magis doctam milkare cowmas,
Et doctam sweepare flooras, et sternere
beddas.'

The *Liber Macaronicus* of Teofilo Folengo (*q.v.*), who first popularised this device, appeared in 1517. The author was a dissolute Benedictine monk, who explains that his doggerel, like the native macaroni, is nothing but a rude hotch-potch. The Fr. classic writer of such verse is Antoninus de Arena (*d.* 1544). A further illustration is J. R. Lowell's 'Kettelopotomachia' in *The Biglow Papers* (second series).

Macaronies, group of dandies and ex-

quisites of London, who flourished about 1772, and were known by the extravagance of their dress and more especially by their amazing wigs. Charles James Fox was a member of the coterie.

Macaroon, biscuit made of eggs, sugar, and finely crushed almonds. The name (Fr. *macaron*), is perhaps derived, like 'macaroul,' from It. *maccare*, to bruise.

Macarosa, or **Makaraka** (Rom. *Moerum*), fishing tn. and port, 32 m. E. of Split (Spalato), in Dalmatia, Yugoslavia. Pop. 11,000.

MacArt, Cormac, see **CORMAC**.

Macarthur, Douglas (b. 1880), Amer. soldier, b. in Arkansas, son of Lt.-Gen. Arthur (U.S. Army), graduated at U.S. Military Academy, 1903, and at the Engineers' School of Application, 1908. Commissioned second lieutenant of Engineers 1903; by 1920 he was brigadier-general. He was in the Philippines 1903-4, and took part in the Vera Cruz expedition of 1914. He was appointed chief of staff to the 42nd Div. in Aug. 1917; commander of the 84th Infantry brigade in Aug. 1918, and commander of the 42nd Div. in Nov. 1918. M. took part in the fighting in Lunéville, Baccarat, and other sectors; in the Champagne-Marne and Alsace-Marne defenses; and in the St. Mihiel, Pannes, Meuse-Argonne and Sedan offensives. He remained with the army of occupation in Germany till June 1919, when he was appointed superintendent of the U.S. Military Academy. His numerous decorations include the Legion of Honour, the Croix de Guerre, and the It. War Cross. In the Second World War he became world-famous for his defence of the Philippines against overwhelming Jap. odds in 1941-42, notably in the Bataan Peninsula. His delaying operations gained invaluable time for United Nations preparations. No legend ever sprang up so rapidly as the legend of MacArthur. It was the reaction from the disaster of Pearl Harbour. Yet he had but put into operation in the Philippines the forty-year-old strategy dictated by necessity, and the final plans for the defence of the Bataan Peninsula were prepared by Maj.-Gen. George Grunert, who commanded the Amer. forces in the Philippines in 1940. There is no doubt that the Jap. were content to leave the minor front of Bataan while they concentrated on Java and Burma and finally, when they sent some of their best divs. against the Bataan Peninsula, together with dive and low-level bombers, it soon fell, together with 33,000 Amer. and Filipino troops. M., however, was undoubtedly the best fighting general the U.S.A. had produced, though, without air power and mechanized striking units, no soldier could hope to defend the Far E. or launch successful offensives. Appointed commander-in-chief of the whole S.W. Pacific area, with his headquarters in Australia, April 19, 1942, thus controlling troops of all allied nations. Began offensive in the Brit. Solomon Is., Aug. 7, 1942. In 1942 M. was created commander-in-chief of the S.W. Pacific area, and there began the steady counter-offensive (see **PACIFIC CAMPAIGNS IN THE SECOND**

WORLD WAR). In the Pacific M. proved himself one of the greatest military commanders of the century. Appointed after the war to command all army forces in the area, it remained for him to show whether he was equally great as a proconsul. The task before him was of great complexity. Defeat had destroyed the foundations of Jap. national life, and left nothing in their place. All the old beliefs and traditions had gone. The allied bombing had equally disrupted the economic and industrial life of the country. There was grave danger of complete moral, social, and economic breakdown, but throughout 1946 considerable progress was made towards the restoration of normal conditions. M. was fortunate in being able to rely on Jap. co-operation. His directives were issued to a 'Haison' dept., which was in effect the Ministry of Foreign Affairs, and the various Jap. ministries concerned were then left to carry them out; but its prin. functions were supervision and the maintenance of Haison, rather than actual administration. It was for M. to supervise the Jap. nation in their apprenticeship in democracy, and as a result of the phenomenal capacity for work of the average Jap. much progress was made. See study by H. Nicolay, 1942, and F. Hunt, *Macarthur and the War against Japan*, 1945.

Macartney, George, Earl Macartney (1737-1806), Brit. diplomat and administrator, was chief secretary for Ireland from 1769 to 1772, and sat in the Irish Parliament. For two successive periods of five years (1775-85) he was governor of Grenada and Madras respectively. In 1792 he was sent as plenipotentiary to China. See H. M. Robbins, *Our First Ambassador to China*, 1908.

Macassar, or **Mangkasar**, cap. of a dist. of the same name in S. Celebes, Dutch E. Indies. It is made up of the Dutch port (Vlaardingen) and the Malay city, which lies back from the shore. Its ann. commerce in trepang, coffee, copra, spices, pearls, and rubber, etc., amounted to £1,500,000 before the Second World War. Seized by Jap. invaders in Jan. 1942, it was recovered in 1945. Pop. 88,600.

Macassar, Strait of, separates the Is. of Celebes and Borneo, Dutch E. Indies. It was the scene of prolonged naval engagement in 1942. See **NAVAL OPERATIONS IN THE SECOND WORLD WAR**.

Macato, pueblo in the N. of Panay Is., prov. of Capiz, Philippines. Pop. 10,136.

Macaulay, Rose, Eng. novelist, poet, and essayist, b. in Cambridge towards the end of the nineteenth century, her childhood and early youth were spent mainly in Italy. Her first novel, *The Valley Captives*, was pub. in 1911 while she was still a student at Oxford Univ. She has since written some fourteen novels, in which she reflects the contemporary scene with wit and a shrewd understanding. She estab. her reputation with *Potterism* (1920). This with *T. M. by an Idiot* (1923) and *Staying with Relations* (1930) are adjudged her most successful novels. Other novels include *Dangerous Ages* (1921); *Crises Train* (1926); *Keeping Up Appearances* (1928); *The Shadow Flies*

(1932); *Going Abroad* (1934); *I would be Private* (1937); and *And No Man's Wit* (1940). Her most individual work derives from her outstanding gift of historical imagination, combined with her powers of description. *They were Defeated* (1932) is an astonishing *tour de force*, a study of seventeenth-century England built round the life and personality of the poet Herrick; *They went to Portugal* (1946) contains studies of celebrated Englishmen who visited Portugal; and *Fabled Shore* (1949) is the account of a journey undertaken by the author along the E. and S. coast of Spain, a book in which the eye is as richly active on the present scene as the mind on the historical past. M. has written critical studies of Milton (1933) and of the novels of E. M. Forster (1938); also *Some Religious Elements in English Literature* (1931). Her poetry is contained in *The Two Blind Countries* (1914); *Three Days* (1919); and *Poems* (1927); while *A Casual Commentary* (1925) is a vol. of essays.

Macaulay, Thomas Babington, Baron Macaulay (1800-59), Eng. historian and statesman, the son of Zachary M., the philanthropist, was educated privately and at Trinity College, Cambridge. In 1825 he began to contribute to the *Edinburgh Review*, when his essay on Milton appeared. He soon became one of the most valued writers for that periodical, with which his connection endured for many years. He entered Parliament in 1830, and two years later was appointed a commissioner, and a year later secretary of the Board of Control. In 1834, tempted by the large salary that would enable him to save enough to support himself for the rest of his life, he accepted an appointment as a member of the Supreme Council of India, and he stayed in that country for five years. During his exile he assisted in preparing a criminal code for India, which did not, however, become law until the year after his death. On his return to England he was returned to Parliament as member for Edinburgh, and in 1839 became secretary of war, which office he held for two years. Edinburgh rejected him in 1847, but made amends by electing him in 1852. M. did not neglect his literary labours. He pub. *Lays of Ancient Rome* in 1842, and in the following years revised some of his *Edinburgh Review* articles for pub. in book form. Since 1839 he had been at work on his *History of England*, which was to deal with the period from the revolution to the death of George III.; but it was not until 1848 that the first two vols. appeared, vols. III. and IV. being pub. seven years later, and the fifth posthumously (1861). The *History* was received with a chorus of praise. Its sale was enormous, and it was everywhere eagerly discussed. Its vivid style made it eminently readable, and induced the reader to overlook the Whig bias that everywhere dominated it. His work is now read rather for its literary style than for its historical value; his search for effect and his prejudices militate against accuracy. As a narrative writer he is of the first rank, as in his description of England in 1685.

M. was raised to the peerage in 1857, and was buried in Westminster Abbey two years later. See his collected works, 1866 and 1898; Sir G. O. Trevelyan (editor), *Life and Letters of Lord Macaulay*, 1876, 1931; F. Harrison, *Shelley in Early Victorian Literature*, 1895; and C. Firth, *A Commentary on Macaulay's History of England*, 1938; also lives by J. C. Morrison, 1882; A. S. Canning, 1913; and A. Bryant, 1932.

Macaw, general name for large brilliantly coloured parrots of the genus *Ara*, natives of S. America. Their cry is unpleasantly harsh, and they are less docile than the true parrots. Ms. may live to a great age.

Macaw Tree, S. Amer. palm, *Acrocomia sclerocarpa*, known as 'gru-gru' or 'mucaja.' It attains a height of 40 ft. and has a prickly trunk, with a spreading head of large pinnate leaves divided into slender leaflets, which when young are eaten as a vegetable. The tree yields nuts used in the making of margarine and a violet-scented oil used for scented soaps.

Macbeth, king of Scotland, the date of whose birth is unknown, was the son of Findlaech, and hereditary ruler of Moray and Ross. In 1040 he murdered Duncan, the successor of Malcolm, and became king of Scotland, basing his claim to the throne through his wife Gruach. According to St. Berchan, his reign was prosperous, and M. a benefactor; he made a pilgrimage to Rome in 1050. In 1054 he was defeated by Siward at Dunsinane (Perthshire), and in 1057 defeated and slain by Siward and Malcolm the son of Duncan, at Lumphanan in Aberdeenshire. Shakespeare's tragedy of *Macbeth* is based on his life as given in Holinshed. See study by S. R. J. Erskine, 1930.

Macbride, Ernest William (1866-1940) Brit. zoologist, b. at Belfast, N. Ireland. Educated at Queen's College, Belfast, St. John's College, Cambridge, and at London Univ. Strathcona prof. of zoology, McGill Univ., Montreal, 1897-1909; prof. of zoology, Imperial College of Science, S. Kensington, 1913-34. Author of *Text-book of Invertebrate Embryology* (1911); *Introduction to the Study of Heredity* (1924); *Evolution* (1927); *Embryology* (1929); and *Huxley* (1934).

Macbride, Sean (b. 1904), Irish lawyer and statesman, son of John M., who was executed in the Easter Rebellion, 1916. His mother is Maud Gonne, who has played a large part in Irish nationalism. At fifteen M. was a company officer in the I.R.A. (Irish Republican Army) and on its headquarters staff two years later. He was a junior member of Michael Collins's delegation to London to negotiate a settlement. When Collins signed the treaty (see *ERR*) of 1921, M. denounced the 'betrayal' and joined the party (Fianna Fail) of de Valera. In 1931 he was at the head of the inner council of the I.R.A. in conflict with de Valera, who now as Prime Minister soon afterwards adopted the policy of outlawing the extremists of the I.R.A. In the final split between the leaders of the I.R.A. M. left the I.R.A. in

1937 and devoted himself to practice as a lawyer. Between his briefs he defended old I.R.A. comrades sentenced by de Valera's military tribunals. Later he launched a new Republican party—Clanna na Poblachta—the purposes of which were to sever the last link with Britain, secure an independent currency, and end 'partition' (i.e. unite the six cos. of N. Ireland). At the election of Feb. (1948), precipitated by his challenge to de Valera's policy under the External Relations Act (see EIRE), the new party obtained few seats, but, ironically, just enough to unseat de Valera, who had been in office since 1932. John Costello (*Fine Gael*, 1st Minister, *q.v.*) rewarded him with the key post of minister for external affairs in his coalition Cabinet.

Maccabees, The, or The Hasmoneans, Jewish family, who led the struggle for independence against the Syrian power in the second century B.C. For details see under the names of the individual members of the family—JUDAS, JONATHAN, SIMON, and JOHN HYRCANUS.

Maccabees, The Books of the, certain apocryphal writings of which only the first two are of much importance; these two books, as forming part of the LXX., are recognised by Rom. Catholics as canonical. 1 M. begins with a sketch of the conquests of Alexander the Great and the oppression which the Jews suffered from Antiochus Epiphanes. It then continues with a hist. of the Jewish struggle for independence from the first revolt under Mattathias until the death of Simon (135 B.C.). The hist. falls into three divs.: (1) Chaps. iii. 1–ix. 22, dealing with the period in which Judas Maccabaeus was leader; (2) chaps. ix. 22–xii. 53, dealing with the leadership of Jonathan; and (3) chaps. xiii. 1–xvi. 18, under the leadership of Simon. The work then concludes with a note telling of the accession of John Hyrcanus, and referring to 'the chronicles of his priesthood.' 1 M. was originally written in Heb., but only Grk. versions are extant. The author was a patriotic Jew of unknown name. The date of its composition was probably between 135 and 63 B.C., probably at the very beginning of this period. It may even have been commenced at an earlier date. 2 M. is a late composition of inferior historical value. It begins with two letters purporting to be addressed by the Jews of Jerusalem to those in Egypt. It then gives an account of the wars of the M. from about 176 to 161 B.C., covering about the same ground as the first seven chapters of 1 M. The author does not claim great accuracy, and speaks of his work as the epitome of a larger work by a certain Jason of Cyrene. It is much later than 1 M., though before c. 70. 3 M. and 4 M. are not strictly historical. The former deals with the period of Ptolemy Philopator, and the latter is better described by its sub-title, 'The Sovereignty of Reason.' See E. Kautzsch, *Die Apokryphen und Pseudoepigraphen des Alten Testaments*, 1900, 1921; and W. O. E. Oesterley, *An Introduction to the Books of the Apocrypha*, 1935.

MacCarthy, Denis Florence (1817–82), Irish poet, b. in Dublin. His earlier verses appeared in the *Dublin Satirist*, and by 1843 he was a regular contributor to the *Nation*. He received a medal from the Royal Sp. Academy for translating Calderón's dramas; he had previously been granted a Civil List pension. Among his works may be mentioned, *Ballads, Poems, and Lyrics* (1850), a very popular work; *The Bellfounder* (1857); *Under-Glimpses*, etc. (1857); and *Early Life of Shelley* (1871).

MacCarthy, Desmond (b. 1877), Eng. author and literary critic, educated at Eton and Trinity College, Cambridge, and Leipzig Univ. Entering journalism, he gained editorial experience with the *New Quarterly* and the *New Witness*. In 1913 he became a regular contributor to the *New Statesman*, of which in 1920 he was literary editor and later dramatic critic. During the intervening war years he served with the Red Cross, being attached to the Fr. Army. In 1928 he took over the editorship of *Life and Letters*, and in recent years he has contributed a weekly literary article to the *Sunday Times*. Clarity of thought, wide reading, and a discerning knowledge of the literary figures of his time are among his characteristics as a critic and essayist. While not being impressionistic as a critic he is successful, like Hazlitt before him, in elevating his personal judgment into a widely accepted contemporary estimate of literature. His writings over a number of years have been collected under the following titles: *Portraits* (1931); *Criticism* (1932); *Experience* (1935); and *Drama* (1941).

MacCarthy, Justin (1830–1912), Irish historian, novelist, journalist, and politician, b. at Cork. He was Home Rule member at different periods for Longford co., N. Longford, and Londonderry. On the fall of Parnell in 1892 he became chairman of the Home Rule party, a post which he held until 1896. His chief historical works are *Epoch of Reform* (1874); *A History of Our Own Times* (1882–97, and 1905); *A History of the Four Georges and William IV.* (1884–1901); *Modern England* (1899); and *Rome in Ireland* (1904). His numerous novels include *My Enemy's Daughter* (1869); *Lady Judith* (1871); *A Fair Saxon* (1873); *Dear Lady Disdain* (1875); and *Camilla* (1885).

Macchiavelli, see MACHIAVELLI.

McClellan, George Brinton (1826–85), Amer. soldier, one of the most enigmatic and most discussed figures of the Amer. Civil war, b. at Philadelphia and graduated from West Point in 1846. He served with distinction in the war with Mexico, was an instructor afterwards at West Point, and in 1855 was sent to Europe to study military affairs. He resigned from the army in 1857 and became president of a railway company. In 1861 the people of the W. section of Virginia, opposing secession, founded a new state, W. Virginia. M. was called upon by Lincoln to take charge of the troops whose task it was to drive out the

secessionists. This he did with complete success, marking him as the coming man of the war. The President appointed him to take command of the army of the Potomac. This army was intensely patriotic, but it was a mob. In a few months M. made of it a superbly trained and disciplined force, which was to retain its spirit throughout the war. In the winter of 1861 M. was made commander-in-chief of the Union Armies. He soon came into conflict with both the administration and public opinion. Lincoln wanted a direct advance on Richmond which would preclude any Confederate advance on Washington, but M. preferred to move upon the Confederate cap. from the peninsula formed by the James and York Rs. He was allowed to have his way, but was removed from supreme command of the armies, only having charge of the army of the Potomac. He fought a series of battles, among them the victory of Malvern Hill. By Sept. 1862 things were going badly for the Union forces. Lincoln asked him to resume command. He did so without a reference to the past. His new campaign resulted in the bloody battle of Antietam. The administration expected M. to cross the Potomac at once in pursuit of Lee, but he delayed five weeks. In Nov. he was relieved of his command, and that ended his career as a soldier. His friends attributed this blow to the machinations of politicians, and the whole affair has always been shrouded in mystery. Lee in after years said the best commander who ever opposed him was M. The Democrats named M. for President in 1864, but he was defeated by Lincoln. See life by P. S. Michle, 1901.

Macclesfield, mun. bor. and mrkt. tn. of Cheshire, England, 17 m. S.E. of Manchester. It is the chief silk-manufacturing centre of England, producing all kinds of plain and fancy ribbons, etc.; there are also breweries, and coal mines, and slate is quarried in the vicinity. Pop. 37,000.

M'Clintock, Sir Francis Leopold (1819-1907), Brit. explorer and admiral, b. at Dundalk in Ireland, entered the navy in 1831. He first went to the Arctic regions in 1848 with Sir James Ross; his most famous achievement was ascertaining the fate of Sir John Franklin on his expedition with the *Fox* in 1857. He described his expedition in *The Voyage of the 'Fox'*, pub. 1859. See life by Sir C. R. Markham, 1909.

McClure, Sir Robert John le Mesurier (1807-73), Brit. explorer, was a native of Wexford, Ireland. In 1824 he joined the Navy, and in 1836 went on Capt. Back's expedition to the Arctic regions. In 1848 he accompanied Ross to the Arctic, and in 1850 went on his third expedition as commander of the *Investigator*. During this expedition he was successful in journeying through the N. W. passage. He pub. his book on this voyage in 1856.

'McClure's Magazine' was founded in America in 1893 by Mr. S. M. McClure. It includes R. L. Stevenson, J. M. Barrie, Rudyard Kipling, Dean Farrar and many other writers of equal distinction among

its contributors. Miss Tarbell's *History of the Standard Oil Company*, which at the time created such a sensation, first appeared in this monthly, whilst it has also pub. an excellent *Life of Lincoln*.

MacColl, Dugald Sutherland (1859-1948), Eng. artist, art critic, and author, son of a well-known Glasgow preacher of the same names. He was educated at Univ. College School, London Univ. and at Lincoln College, Oxford, where he won the Newdigate prize for a poem on 'The Fall of Carthage.' After visits to the chief European galleries he became art critic to the *Spectator* (1890-95). An iconoclast, he demanded the overthrow of the false gods of the Academy and their replacement by such older contemporaries as Manet, Degas, and Whistler and such younger contemporaries as Sæer, Sickert, Conder, Beardsley, and Augustus John. In 1900, in connection with the Glasgow Exhibition, he wrote his first considerable work, *Nineteenth Century Art*. He ed. the *Architectural Review* (1901-5) and lectured at the Slade School on the hist. of art. M. became a member of the board of trustees of the Tate Gallery, securing reforms in the administration of the Chantrey bequest, and was instrumental in promoting the institution in 1903 of the National Art Collection Fund (*q.v.*). In 1906 he was appointed keeper of the Tate and Wallace collections. His poems, the product of sixty years, were collected in 1940. His two chief books were pub. late in life: *Confessions of a Keeper and other Papers* (1931), a selection from his critical writings, and *Life, Work, and Setting of Philip Wilson Steer* (1945), a highly individual biography throwing much light on the art hist. of the period, for which he was awarded the James Taft Black memorial prize. He occupies a high position in the Brit. school of water-colour, and it was as an artist that he cared to think of himself. His work is clear and direct, his sense of colour delicate and fine. His influence on the revival of this art was great.

McComb, tn. of Pike co., Mississippi, U.S.A., 95 m. N.E. of New Orleans. It is engaged in the cotton manuf. and has lumber, veneer, and tapestry mills, and railroad shops. Pop. 9,800.

MacCormac, Sir William (1836-1901), Brit. surgeon, b. in Ireland. During the Franco-Ger. war of 1870-71 he was attached to the Anglo-Amer. Association, and some years after his return to London became lecturer at St. Thomas's Hospital and surgeon to various other hospitals. During the S. African war of 1899-1902 he acted as surgeon to the troops, and in 1901 was made sergeant-surgeon to King Edward VII. Among his literary works are *Notes and Recollections of an Ambulance Surgeon* (1870), and *Surgical Operations* (1885 and 1889).

McCormack, John (1844-1948), Irish tenor, b. at Athlone. He won the gold medal at Fels Ceoil, Dublin, in 1903. Joining the choir of the Catholic cathedral there, in 1904, with that choir, he sang at the St. Louis Exhibition. In 1905 he received instruction at Milan from Sabba-

tni, and, later, sang at Savona in *L'Amico Fritz*. In 1907 he sang at ballad concerts in London and made his *début* in opera at Covent Garden as Turiddu in *Cavalleria Rusticana*. A greater opportunity waited him in the same season, when he was cast for the part of Don Ottavio in *Don Giovanni*, his singing of the two big arias of that part creating the highest impression of his powers. Later, he appeared with great success in subsequent seasons at Covent Garden, especially with Tetraxini in *La Traviata* and in *Lucia di Lammermoor* and *Rigoletto*; for the old-fashioned type of it, opera was certainly what best suited him. He was also the ideal partner to Melba's Mimi in *La Bohème* in the seasons up to 1914. He sang in *Elijah* at the Royal Choral Society's concerts. From 1910 to 1911 M. was with the Boston Opera Company, and he visited Australia in 1911. After a year with the Chicago Opera Company he visited Australia again. In 1917 he became an Amer. citizen. Later he sang mostly at concerts, and also in the popular film *Song of my Heart*. His singing of Irish folk-songs made him known all over the world. He returned to England in 1924. Raised to the papal peerage in 1928, he became chevalier of the Legion of Honour in 1924, and fought commander of Malta in 1932. He gave his farewell concert in Dublin's Theatre Royal in Oct. 1938. See life by L. A. G. Strong, 1911, 1949.

McCormick, Robert Rutherford, *see* CHICAGO TRIBUNE.

McCosh, James (1811-94), Scottish philosopher, b. at Karskeoch, Ayrshire. The principle on which he based his theology was chiefly that of intuition, and he was quite opposed to the empirical school. His writings include *The Method of the Divine Government*, *Physical and Moral* (1850); *Examination of Mr. J. S. Mill's Philosophy* (1866); *Realistic Philosophy* (1887); and *First and Fundamental Truths* (1889).

McCreery, Sir Richard Loudon (b. 1898), Brit. soldier, educated at Eton and Sandhurst. Entered the 12th Lancers, 1915, and, in the First World War, served in France. Staff College, 1928-29. Served in France, 1940. Promoted major-general, 1943. Chief of staff, Middle E., 1942; Tunisia, 1943. Promoted lieutenant-general, 1944. In Italy, under the supreme command of Gen. (later F.-M. Lord) Sir Harold Alexander, he led the Eighth Army (g.r.) against F.-M. Kesselring's Ger. armies, launching the offensive of May (1944) which resulted in the storming of Cassino (*see* CASSINO, BATTLE OF), the destruction of the Gustav line, S. of the Apennines, and the fall of Rome (June 4) and, soon afterwards, the occupation of Florence (Aug. 22). In the 1945 campaigns his army, in co-operation with the Fifth Amer. Army, destroyed the Gothic line—the last effective Ger. barrier to the Po valley and the plains of Lombardy—and so brought about the final surrender of the Ger. armies (April). *See also* ITALIAN FRONT, SECOND WORLD WAR CAMPAIGNS ON. G.O.C.-in-C., Brit.

Forces of Occupation in Austria and Brit. representative on the Allied Commission for Austria, 1945-46. G.O.C.-in-C. of the Brit. Army of Occupation of the Rhine, 1946-48. Brit. Army representative, military staff committee, from 1948.

McGrie, Thomas (1772-1835), Scottish clergyman and writer, b. at Duns, Berwick. His works deal chiefly with eccles. hist., his chief being *Life of John Knox* (1812), this work cleared the reformer from a cloud of prejudice and misunderstanding; *Life of Andrew Melville* (1819), and hist. of the Reformation in Italy and Spain.

McCudden, James Byford (d. 1918), Brit. airman and member of the Royal Flying Corps, son of a sergeant of the Royal Engineers, and eldest of four brothers, all of whom rendered most distinguished service in the First World War. The record of M. was the most remarkable, for he brought down over fifty enemy machines during his service on the W. Front. He joined the R.F.C. as a mechanic in 1913 and served in the corps for five years. Awarded the V.C.

MacCullinan, Cormac, *see* CORMAC.

McCulloch, Horatio (1805-67), Scottish landscape painter, a native of Glasgow. He began by painting snuff-boxes, and first exhibited pictures in 1829. He then became an A.R.S.A., and in 1838 a R.S.A. His chief pictures are 'Mist rising off the Mountains,' 'Deer Forest,' 'Loch-an-Ellan,' and 'Bothwell Castle.'

McCulloch, John (1773-1835), Brit. geologist, b. in Guernsey. He qualified as a surgeon, and was afterwards employed in research work on the geology of Scotland. He wrote *A Description of the Western Isles of Scotland* (1819), and *A System of Geology* (1831).

McCulloch, John Ramsay (1789-1864), Brit. economist and statistician, b. at Whithorn in Wigtonshire. He contributed to the *Scotsman* and the *Edinburgh Review*. Among his works are *The Principles of Political Economy* (1825); *Dictionary of Commerce and Commercial Navigation* (1832); *A Statistical Account of the British Empire* (1837); and *Treatise on Economical Policy* (1853).

MacCunn, Hamish (1868-1916), Scottish musical composer, b. in Greenock. Studied under Sir Hubert Parry. He was conductor to the Carl Rosa and other light opera companies, and prof. of composition at the Guildhall School of Music. The most Scottish of the Scots composers. His concert overtures—*The Land of the Mountain and the Flood* (1887), *The Dowie Dens o' Yarrow* (1888), and *The Ship o' the Fiend* (1888) are his best works. Others include *Bonny Kilmory* and *The Lay of the Last Minstrel* (cantatas, 1888); *Jeannie Deans* (opera, 1894); and *The Golden Girl* (musical comedy, 1905).

Macdiarmid, Hugh, pen-name of Christopher Murray Grieve, Scottish author, b. at Langholm, Dumfriesshire, Aug. 11, 1892; and educated at Langholm Academy and Edinburgh Univ. His first vol. of poems, *Songs and Ballads*, appeared in 1925, followed by *Penny Whisp* and *A Drunk Man looks at a Thistle*. His lyrical poems

are mostly in Scottish dialect, but he also writes in Eng. As a journalist he is on the editorial staff of the *Carlisle Journal*, and is editor of the quarterly, the *Voice of Scotland*. He was one of the founders of the Scottish Nationalist party, and his intense nationalism, with his acceptance of the Socialist view of life, finds expression in his numerous writings, including his poetry, which sometimes with lyrical tenderness, sometimes with harshness reflects his attitude to the social conditions of his time. His *First Hymn to Lenin* was pub. with other poems in 1931, and the *Second Hymn to Lenin* in 1935.

Macdonald, Charles (1837-1918). Amer. civil engineer, b. in Gananoque, Canada, Jan. 26. He was educated at Queen's Univ. Ontario, and the Rensselaer Polytechnic Institute, Troy, New York. After the Civil war, in which he was taken prisoner, he began bridge construction, and soon became one of the foremost bridge-builders in the U.S.A. Among the bridges which he and his associates constructed were the Schuylkill R. bridge; all the bridges between Hoboken and Dover, New Jersey, on the Delaware and Lackawanna system; the Susquehanna R. bridge at Harrisburg; and also the Hawkebury bridge in Australia. He was president of the Amer. Society of Civil Engineers, 1908-9.

Macdonald, Sir Claude Maxwell (1852-1915), Brit. soldier and ambas., served in 1892 in the Egyptian campaign and in the Suakin expedition of 1884. He was minister at Peking, 1896-1900, and during the siege there had command of the legation quarters. He was transferred to Tokyo in 1900, and in 1905 became first Brit. ambas. to Japan, retiring in 1912.

Macdonald, Etienne Jacques Joseph Alexandre (1765-1840), duke of Taranto, marshal of France, b. at Sedan. He entered the army about 1784 and in 1795 captured the Dutch fleet. After withdrawing Suvaroff in Italy he was defeated by him on the Trebia, but was again successful in 1800 by his march across the Splügen. In 1805, however, he fell into disfavour with Napoleon, but was restored in 1809, when he triumphed over the Austrians at Wagram, this service being rewarded by the title of marshal. He was in command in Spain in 1810, and was completely defeated by Blücher at Kautzbach in 1813. He deserted to the Bourbons in 1814. See M. C. Rousset (ed.), *Souvenirs du maréchal Macdonald*, 1892.

MacDonald, Flora (1722-90), Scottish Jacobite, rescuer of Charles Stuart, was b. at Milton, S. Ulst., Hebrides. After the battle of Culloden (1746), she was successful in helping the Pretender to land in Skye, having disguised him as 'Betty Burke', her maid. Because of this she was arrested and imprisoned, but was released in 1747, and three years later she married Macdonald of Kingsburgh. They afterwards went to America, and Flora, who returned alone to Scotland in 1779, was joined later by her husband. See W. Jolly, *Flora MacDonald in Ulst* (1880); and A. MacGregor, *The Life of Flora MacDonald* (1901).

MacDonald, George (1824-1905), Scottish author, b. at Huntly, Aberdeenshire. His first literary work was pub. in 1856. He was the author of *Poems* (1857); *Phantastes, a Fæerie Romance* (1858); and of many novels, including *David Elginbrod* (1862); *Robert Falconer* (1868); *Malcolm* (1874); *The Marquis of Lossie* (1877); and of children's books, such as *The Princess and the Goblin* (1872) and *The Princess and Curdie* (1883). See lib. by Rev. J. Johnson, 1905; and anthology by C. S. Lewis (ed.), 1945.

Macdonald, Sir Gordon (first Baron Macdonald of Gwaenysgor) (b. 1888), Brit. Labour politician and administrator, last Brit. governor of Newfoundland B. at Prestatyn, Flintshire. Went to an elementary school in Ashton-in-Makerfield and began work at thirteen in a coal-mine. Later he studied at Ruskin College, Oxford. Worked for twenty-two years in the pits, being elected miner's agent in 1924. Elected Labour M.P. for Ince, 1929-42. Resigned his seat to serve as regional controller of the coal industry in Lancashire, Cheshire, and N. Wales. In 1946 he was made governor of Newfoundland, his sympathy and fellowship with the people of all classes there making him one of the most popular governors in the list of the is. As the 'poor man's governor,' familiar with the hardships of a Lancashire colliery dist. for forty years, he sponsored the confederation of Newfoundland with Canada as holding out a brighter dawn for the hard-hit inhab. and his term of office ended when he joined the confederation (March 31, 1949).

Macdonald, Sir Hector Archibald (1852-1903), Brit. soldier, who won for himself the sobriquet of 'Fighting Mac.' He was b. in humble circumstances at Muir of Allan-Grange, Ross-shire, Scotland. At the age of eighteen he enlisted in the Gordon Highlanders. Taken prisoner at Majuba in the first Boer war (1881), Gen. Joubert returned him his sword on account of his bravery. He took part in the Nile expedition (1885) under Sir Evelyn Wood. He distinguished himself in the Dongola expedition (1896) and gained a brilliant success in the battle of Omdurman (1898), where he completely routed the Mahdi's troops. In the Transvaal war of 1899 he commanded the Highland Brigade during the Paardeburg, Bloemfontein, and Pretoria campaign under Lord Roberts, and was made K.C.B. in 1901. He committed suicide in Paris, whilst on his way to a court of inquiry about charges brought against him whilst in command in Ceylon.

Macdonald, Sir John Hay Athole, see **KINGSBURGH, LORD**.

MacDonald, James Ramsay (1866-1937), Brit. statesman, b. at Lossiemouth. He was educated at a Moray board school, where, after work on a farm, he was a pupil teacher. In London he worked at sev. very poor clerking jobs, and attended evening classes, obtaining work in a chemical laboratory. In 1888 he became private secretary to Thomas Lough, M.P. He earned his living, after leaving Lough, mainly by writing for

Liberal papers. He joined the Independent Labour party soon after its formation, and stood as its candidate at Southampton in the general election of 1895. In that year non-manual worker delegates were excluded from the Trade Union Congress; this created a difficulty, surmounted by a resolution, drafted by M., and carried in the T.U.C., 1899, setting up a conference to promote working-class representation. M. also drafted the resolutions submitted to this conference, Feb. 27, 1900, the immediate result being the Labour Representation Committee, from 1906 the Labour party, of which he remained secretary till 1912.



Ellott and Fry

JAMES RAMSAY MACDONALD

In 1906 M. was elected for Leicester, which he had already contested in 1900. He was on the London Co. Council 1901-4 and chairman of the I.L.P. 1906-9. He was left a widower in 1911 by the death of Margaret Ethel M., a daughter of Rev. J. H. Gladstone. In that year he became leader of the Labour party. He had already visited distant parts of the empire, and in 1913-14 he again visited India, as a member of the royal commission on Indian public services. In 1914 he attacked Great Britain's entry into the First World War with the result that he was defeated by a great majority at W. Leicester in Dec. 1918 and again, in E. Woolwich, in March 1921. But on his return to Parliament in 1922 as member for the Aberavon div. of Glamorgan, he was placed at the head of a Labour party which had become the official Opposition. At the general election of Dec. 1923 the Labour party and the Liberal party secured the balance, and M. formed the

first Brit. Labour Gov., which lasted from Jan. 22 till Nov. 4, 1924. M. was his own foreign secretary, and raised Brit. popularity abroad. He was prominent in the discussions in the Assembly of the League of Nations in 1924 on the treaties of mutual assistance, delivering an important address in Sept. 1924 on the great task of trying to solve the related problems of security, disarmament, and arbitration in one document which became the Geneva Protocol (q.v.) of 1924. His gov. was deserted by the Liberals on the matter of the Campbell prosecution, and fell. In the succeeding general election great use was made, by anti-Socialists, of the Zinoviev letter; and the Conservatives, who had been violently opposed to all the Labour Gov.'s dealings with Russia, came back triumphant. When the general election of May 1929 left Labour in the position of the largest party in the Commons, M. took office a second time, representing the Seaham div. of Durham Co. In Aug. 1931, when the Labour Gov., in the face of a crisis over the nation's financial situation, resigned, M. accepted office as Prime Minister of a 'National Gov.' pledged to remain in office solely to balance the Budget (see NATIONAL GOVERNMENT).

The formation of the National Gov. meant the final break between M. and the party which he had helped to found, and of which he had been so long leader. With Mr. Snowden and other supporters he formed the 'National Labour party,' the Labour party expelling him and all the members of the new party. The election which followed endorsed his action, and though his personal following was small in the new House of Commons, all but sixty seats were captured by gov. candidates. After four years he decided to retire from the premiership, and in 1935 was succeeded by Mr. Baldwin, he himself retaining the post of Lord President of the Council. In the election of Nov. 1935, which followed Mr. Baldwin's assumption of office, he was heavily defeated in his old constituency of Seaham Harbour, but in Feb. 1936 was returned as a member for the Scottish univ. He d. at sea (Nov. 9) when going to S. America for the benefit of his health, which had been failing for some time. His writings include *The Zoltverein and British Industry* (1903), *Labour and the Empire* (1907), *Socialism and the Government* (1909), *The Awakening of India* (1910), *Syndicalism* (1912), *The Social Unrest* (1913), *National Defence* (1917), *The Government of India* (1919), *Parliament and Revolution* (1919), *A Policy for the Labour Party* (1920), *Socialism, Critical and Constructive* (1921), *Wanderings and Excursions* (1925), *American Speeches* (1930). See lives by Mary Agnes Hamilton, 1921; L. M. Weir, 1928; H. A. Tiltman, 1929; and Lord Elton, 1939.

Macdonald, Sir John Alexander (1815-1891), Canadian Conservative statesman, was b. in Glasgow, Scotland, was second son of Hugh M., who removed with his family to Upper Canada in 1820, and obtained a position in the commercial bank at Kingston. In that city John was

educated at the Royal Grammar School. Called to Bar in 1836, he became Q.C. in 1846. He was elected to the Legislative Assembly, 1844, for Kingston, which he represented until 1878, continuing its member in the new Dominion Parliament. The first offices he held were receiver-generalship and commissionership of Crown lands, for a short time. In 1854 he became attorney-general in a Coalition Gov. In 1857 he became Premier, and, with one brief interval, he continued so till 1862. In 1864 he became attorney-general in Taché's Cabinet. The defeat of the Taché-Macdonald administration of 1864, and the consequent paralysis of gov., brought about the formation—largely through M.'s efforts—of the 'Great Coalition,' and so led to the confederation of the Brit. N. Amer. provs. Following the resignation of George Brown (q.v.) in 1865 M. came to be looked upon as the chief architect of confederation, and certainly at the conferences in Canada and in England of 1864-66 he was prominent in the discussions over the drafting of the Brit. North America Act, 1867. In these circumstances M. was chosen to be the first Prime Minister of the new Dominion of Canada, and he filled that office from 1867 till 1873, and then again from 1878 to his death. His gov. fell in 1873 on account of its members being detected in receiving campaign funds from a railway concessionaire—the so-called 'Pacific Scandal.' Fortunately M.'s reputation survived this catastrophe, and in 1878, after being defeated at Kingston, he sat for Carleton and Lennox and returned to office on the 'National Policy' of high protection; and in the succeeding general elections, 1882, 1886, and 1891, he carried all before him. In 1887 he again became member for Kingston. It is admitted that N. had not a lofty conception of political morality, but if he was an opportunist, he was also a politician of very strict views, and was certainly outstanding in the art of managing men. On the continuance of the Brit. connection and the maintenance of law and order he was uncompromising—a constancy of outlook which was of the greatest value in the difficult transition period of confederation. It was due to M.'s initiative that Brit. Columbia and the N.W. Terr. were included in the dominion, and the project of the Canadian Pacific Railway was also due to him; and in some ways therefore the Dominion of Canada may be regarded as the product of his statesmanship. K.C.B. 1867; P.C. 1879; G.C.B. 1884. See Sir J. Pope, *The Day of Sir John Macdonald*, 1915, and *Memoirs of Sir J. A. Macdonald* (2 vols.), Ottawa (latest ed.), 1930; and *Correspondence of Sir John Macdonald*, Toronto, 1921. The best lives are those of E. B. Blygar, *Anecdotal Life of Sir John Macdonald*, Montreal, 1891; and G. H. Parkin, *Sir John A. Macdonald*, Toronto, 1910. See also *The Makers of Canada*, ed. by Duncan Campbell and others (revised ed.), Oxford Univ. Press, 1926. General historical works on the period of M.'s political career include J. C. Dent, *The Last Forty Years* (2 vols.), Toronto, 1881; and J. S. Willi-

son, *Wilfrid Laurier and the Liberal Party* (2 vols.), Toronto, 1903.

Macdonnell, Randal, see ANTRIM, MARQUESS OF.

Macdonnell Range, mt. range in the N. Ter. of Australia, lying along the tropic of Capricorn. Rainfall produced by its height is carried away by numerous streams, generally ending suddenly in the dry lowland. The Arltunga goldfield is at the E. end.

Macdonough, Thomas (1786-1825), Amer. naval commander, was b. in the state of Delaware, and entered the navy in 1800. He saw active service in the Mediterranean, particularly when the U.S.A. tried to break up the pirate bands which made their headquarters in the Barbary states. M. took part in the bombardment of Tripoli. When the war with England broke out M., in 1814, had charge of the small fleet of fresh-water boats on Lake Champlain, and taking full advantage of the fact that the Brit. authorities had neglected the defence of the lakes, he defeated Sir George Prevost's projected attack on the ter. adjacent to Lower Canada.

McDougall, William (1871-1938), Scottish psychologist, b. in Lancashire; prof. of psychology at Duke Univ., N. Carolina, from 1927 until his death. In the early part of his career he studied medicine at St. Thomas's Hospital, London, after taking his degree at Cambridge Univ. He took his M.B. degree, and in 1898 became a fellow of St. John's College, Cambridge. He was also reader and fellow of Univ. College, London, and Corpus Christi College, Oxford. He served with the R.A.M.C. during the First World War. In 1920 he went to Harvard Univ., and thereafter to Duke Univ. His main contribution to psychology lay in the study of instinct and emotion, which in his classification were interrelated, each instinctive impulse being accompanied by its own quality of emotional experience. His teaching, which was a powerful counterbalance to the mechanistic view of human behaviour, is contained in a remarkable series of books: *An Introduction to Social Psychology* (1901); *The Group Mind* (1920); *An Outline of Psychology* (1923); *An Outline of Abnormal Psychology* (1926); *Modern Materialism and Emergent Evolution* (1924); *Intuition and the Sciences of Life* (1934); *The Frontiers of Psychology* (1935); and *Psycho-Analysis and Social Psychology* (1936). He also wrote a number of other books which had a more direct bearing on the problems of the day, principally on ethics, nationalism, which he considered 'essentially a mental condition,' and the problem of racial degeneration.

MacDowell, Edward Alexander (1861-1908), Amer. musical composer and pianist, b. in New York, Dec. 18, of Scotch-Irish-Quaker descent. Up to the present day M. remains the most striking figure among native Amer. composers, and his services to the cause of the Amer. composer as such cannot be forgotten; he was the first Amer. musician to receive the recognition of

European composers and executants. In 1876-78 he studied at the Paris Conservatoire, the piano under Marmontel and theory under Savard. In 1878 he went to Germany where he studied the piano under Louis Fliert and composition under Raff, the latter exercising a great influence on the development of Macduff. Raff introduced him to Franz Liszt in 1882, and through Liszt's influence Macduff was given the opportunity of playing his first piano suite at the nineteenth annual festival of the *Allgemeine Deutsche Musikverein* held in Zürich. Remaining in Germany till 1888, he devoted himself chiefly to composition, writing piano concertos and tone poems for the orchestra. In 1888 he returned to America and settled in Boston, his first public appearance in America being with the Knisel Quartet in Boston in 1888. His most popular orchestral work, the second *Indran* suite for orchestra, was first performed by the Boston orchestra in 1896. In the latter year he took charge of the newly organised dept. of music at Columbia Univ. His restricted his activity as a piano virtuoso and recitalist, but the next five or six years saw the production of his best piano compositions. In 1897-99 he conducted the Mendelssohn Glee Club in New York. In 1902 his health began to fail, and he resigned his only position. Mental derangement manifested itself in 1903, and he died in New York on Jan. 27, 1908. He was honoured in his lifetime by the degree of Mus.D. Princeton and Pennsylvania univs., and was elected to the Amer. Academy of Arts and Letters. An excellent bibliography of his compositions was pub. by the Library of Congress under the title *Catalogue of the Works of Macduff* by O. G. Sonneck, 1917. See L. Gilman, *Macduff, a Study*, 1909, 111 Page; *Macdowell, his Work and Ideals*, 1911; J. F. Poite, *A Great American Tone Poet*, 1922; *Macdowell*, 1922; also studies by J. F. Poite, 1922; A. F. Brown, 1924, and J. F. Cooke, 1928.

Macduff, port of Banffshire Scotland. It is a popular seaside resort on account of the bathing facilities and bracing air. Littering fisheries and boat building are the chief industries. Pop. 5000.

Mace, The staff 5 ft long originally a weapon, particularly favoured by priests who were forbidden to draw blood by the sword, is now a symbol of office as in Parliament, the Church and universities, brought out on state occasions. The first mayor's M is set with pearls. There is a trade union of mace bearers, founded in 1931.

Macedonia, area comprising (1) Province of Greece, area 13,360 sq. m. pop. 1,686,400. (2) Republic of Yugoslavia, area 26,494 sq. kilometres, pop. 941,900. Anciently M was a country of S.E. Europe, said to have been originally named Emathia, bounded S by the Aegean Sea, E by Thrace and W by Illyria. The chief towns were Edessa, Philippi, Pella, Potidea, and Thessalonica. Edessa and Pella being in turn the capitals. Its boundaries were greatly enlarged by the conquests of Philip of Macedonia

When the Romans conquered it 168 B.C., it was divided into four districts independent of one another, but the whole country was formed into a Roman province after the conquest of the Achaeans, in 146 B.C. Little is known of the history of M till the reign of Amyntas I. (c. 540-500 B.C.) who was a contemporary of Darius Hystaspis (father of the Persian king Darius I.) but from that time the history of these two and of M is more or less intimately connected with that of Greece till at length Philip father of Alexander the Great, became a virtual master of the whole of Greece. The conquests of Alexander extended the Macedonian supremacy over a great part of Asia, and the Macedonians continued to



Yugoslav Embassy

MACEDONIAN PEASANTS DANCING THE "KOLO"

A Yugoslav national festival at Skopje

exercise their sovereignty over Greece till the conquest of Persia by the Romans. In 168 B.C. brought the Macedonian monarchy to an end. Modern M is bounded on the N by the Karadagh Mts and Bulgaria, on the E by the R. Mesta on the S by the Aegean and Greece, and westward by the Shar, Grammus and Linder ranges. The R. Vardar almost bisects M and empties into the gulf of Salonica. Other main streams are the Struma, Mesta and Bistritza, which flow into the Aegean. The Rhodope Shar, Grammus, Nija, Pindus, Perim Dag and Yaini Bistra Mts embrace many summits over 5000 ft. The climate is harsh. There are still some fine belts of forest on the mt slopes. The addition of M to New Greece has meant an accession of arable growth to the country. M, with Thessaly, grows the best cereals in Greece, the output of corn and maize increased by at least 60 per cent and 40 per cent respectively between 1924 and 1925. Figs and olives are also cultivated. Tobacco of good quality

is grown in large quantities in E. M. and in central and W. M., the chief categories being Basma, with small oval leaves and a fine flavour, and Bashibazili a second-quality leaf. Seres, Drama, and Kavalla are the chief centres for tobacco growing, and the ann. output averages 18,000,000 oke (an oke equals 2822 lb.). M. is also notable for silkworm breeding, the prin. centres being Sialista, Stritsani, Serres, and Edessa. Since the agrarian reforms of 1917, which entailed the expropriation of the large estates (chifliks) for the purpose of settling tenant farmers, the only large estates remaining in the country were in M. besides Epirus, Thessaly, Attica, and Eubœa. Gold and silver used to be mined on the Bunar Daghi, and there are salt pans at Kirov; but otherwise the mineral resources are not developed to any extent. The chief secondary industries of M. before the Second World War were the manuf. of agric. implements, boots and shoes, box-making, breweries, cotton-spinning and weaving, knitted articles, silk-spinning and weaving, and tobacco manuf., the chief centre being Salonika (Thessaloniki). The chief tns., besides Salonika, are Kavalla, Drama, Seres, and Gamulidjina. The predominant pop. is Slavonic, but there are Gks. along the coast and in the S.W., and some Turks, Rumanians, and Jews. Over half the pop. are Christians. M. fell a victim to the Turks in the early fifteenth century. When the reforms promised in the treaty of Berlin (1878) were not forthcoming, the Bulgarian Inhab. formed the 'Internal Organisation' (1893), the watchword of which was 'Macedonia for the Macedonians.' Insurrections against Turkish misrule, and the savage repressions which followed these insurrections, led to the interference of Austria and Russia, who extorted further pledges of reform from the obstinate Porte (1903). (See BALKAN WAR.) After the Balkan wars (1912-13), portions of M. were ceded to Greece. After the First World War, under the treaty of Neuilly, 1918, the greater part of M. was ceded to Yugoslavia. After the change of regime in Bulgaria in 1934 the 'Internal Organisation' (or 'Internal Macedonian Revolutionary Organisation') and its followers, the 'Komitadjie', which had heretofore been supported from Bulgaria with arms, was suppressed, and its leader, Mihailoff, whose aim was Macedonian autonomy, was exiled to Turkey. But the Macedonian question still remained a source of potential trouble in S.E. Europe: for a large number of the Macedonians remained opposed to both Greece and Yugoslavia, and wanted either a Macedonian state or union with Bulgaria. In the Second World War Salonika was taken by Ger. forces on April 9, 1941, and the allied Gk. and Brit. forces, overwhelmed by numbers and weight of armament, fell back on Epirus. See further WORLD WAR (1939).

—*Fall of Greece.* See J. Ancel, *La Macédoine*, 1930; S. R. Ladas, *The Exchange of Minorities: Bulgaria, Greece, and Turkey*, 1932; and H. Seton-Watson, *Eastern Europe between the Wars, 1918-1941*, 1946.

For antiquities see F. W. Hasluck, *Athos and its Monasteries*, 1934.

Macedonian Front, Operations on. Allies landed an expeditionary force at Salonica on Oct. 5, 1915, in a general attempt to dominate the Near E. The force was, however, inadequate to prevent the overthrow of the Serbs, and, in 1916, it was heavily reinforced by Fr. and Serbian troops until, by Aug., it numbered over 600,000 men, under the supreme command of Gen. Sarrail (*q.v.*). These forces occupied a broad front N. of Salonica, the left flank resting on the Serbian frontier to the S. of Monastir, the centre occupying the valley of the Vardar to Doiran, and the right flank resting on the Struma R. The immediate purpose of the offensive launched in Aug. 1916 by Sarrail was to force the Bulgarians to defend their gains in Serbia rather than to march against Rumania, and, at the same time, to induce Rumania to enter the war on the side of the Allies. In this the Allies were successful, for Rumania was soon advancing into Bukovina (*q.v.*), but thereafter they were routed. The Rumanian breakdown was largely due to Sarrail's failure to press the offensive in Macedonia, and, indeed, so far from advancing at all, he was driven back from Florina, and the Bulgar forces captured Koritza and Kastoria, the railway through Demir Hisar, and, later, the Gk. port of Kavala (Sept. 1916). The Serbs, however, redeemed this failure by recapturing Monastir, but this isolated success had no effect on Bulgarian plans. In 1917 Sarrail, meeting with further defeats, was superseded by Guillaumat; but decisive operations were not begun until the following year, when Franchet d'Espèrey (*q.v.*) succeeded Guillaumat. The two decisive allied victories were those of the Vardar (Sept. 18-25), and Doiran (Sept. 18-19). Brit. and Gk. troops operated in the region of Lake Doiran, on the right front; Franco-Serb troops in the centre, along the Vardar; and It. troops on the left in Albania. These victories led, in turn, to the capture of Prilep, the Babuna Pass, Ishtip, and finally of the Bulgarian tn., Strumnitza, which threw open the road to Sofia. Bulgaria then agreed to unconditional surrender. See also SALONICA; WORLD WAR, FIRST.

Macedonians, early Christian sect who taught that the Holy Ghost was inferior to the Father and the Son; so called from Macedonius, bishop of Constantinople in the fourth century.

Maceió, city of Brazil, cap. of the state Alagoas. Its port of Juraguá exports sugar, rum, and cotton. There are manufs. of machinery and other goods. Pop. 91,300.

Mace of the Nutmeg, blood-red lacerated membrane which contains a very fragrant oil. If expressed the oil serves as a liniment, and if distilled it possesses the fragrance of mace.

Macer, Æmilius, Rom. jurist, who lived in the reign of Alexander Severus. He wrote sev. books, among which are *De Appellationibus*; *De Re Militari*; *De Officio Prædictis*; *De Publicis Judiciis*; and *Ad Legem de Vicesima Hereditatum*.

Macerata, cap. of the prov. of M. in the Marches, Italy, 22 m. S.W. of Ancona. The city is protected by a wall more than 2½ m. in circumference. It is the see of a bishop, and formerly had a univ. founded in 1270. Chemicals and glass are produced. Pop. 26,700.

Maceration, process by which some of the constituents of plants are extracted by steeping the seeds, leaves, roots, etc., in a suitable solvent; there may be also a certain amount of breaking up of the fibres by mechanical means. The operation is adopted in the preparation of liquors and perfumes.

McEvoy, Ambrose (1878-1927), Eng. painter, studied at the Slade school. He began as a painter of restful interiors and poetic landscapes, and then sprang into fame as a fashionable portrait painter. His water-colours include such landscapes as 'From a Window in Venice' and 'Burton Park'—which reveal the real nature of his talent; and such portraits as 'Lillian,' 'Lady Patricia Ramsay,' 'Miss Lillian Bankhead,' and 'Miss Zita Youngman.' Other pictures are 'The Engraving,' 'The Thunder-storm,' and 'The Book'—genre subjects in Victorian costume; portraits of sailors and winners of the V.C.—work which dates from his experiences in the R. N. div. in the First World War; 'The Ear-ring' (1911) in the Tate Gallery, and 'Noli Me Tangere' (a successful copy of Titian). Examples of his work are also in the Luxembourg Museum and the Municipal Gallery, Johannesburg. He was made A.R.A. in 1924.

McEwen, Sir John Blackwood (1863-1943), Scottish composer, b. at Hawick and educated at Glasgow Univ. Came to London, 1891, and studied music at the Royal Academy of Music. In 1895 he returned to Scotland and settled at Greenock as church choir-master and pianoforte teacher, but in 1898 he was invited to join the Royal Academy of Music as prof. of harmony and composition and remained there until 1936. Knighted 1932. His work became well known through the success of *Grey Galloway*, a border ballad for orchestra. Among his symphonies that in C. sharp minor entitled *Solway*, produced at Bournemouth in 1922, has been often performed, having been pub. by the Carnegie Trust. His compositions include also orchestral works, chamber music, and piano pieces.

Macewen, Sir William (1818-1921), Scottish surgeon. He was knighted in 1902, and became a prof. of surgery at Glasgow Univ. in 1892. He was a pioneer of brain surgery, performing the first operation for abscess of the brain, in 1876, and a disciple of Liston's theory of antiseptics. Among his publs. may be mentioned *Osteotomy* (1880) and *The Growth of Bone* (1912). See A. K. Bowman, *The Life and Teaching of Sir William Macewen*, 1942.

Macfarren, Sir George Alexander (1813-1887), Brit. composer and writer on musical theory, b. in London. He became prof. of the Royal Academy of Music in 1834 and principal in 1875. His musical

productions include operas, cantatas, chamber music, and vocal and instrumental items, but he is best known for his theoretical publs.: *Lectures on Harmony* (1877); *Rudiments of Harmony* (1878); *Counterpoint* (1879); and *A Musical History* (1885).

McGarry, In. in Lanark co., Ontario, Canada, 12 m. S.W. of Smith's Falls; trade in wool and flour is carried on. Pop. 4000.

McGill, James (1741-1813), Scottish philanthropist, b. at Glasgow, who emigrated to Canada, where he settled down in Montreal as a fur merchant. He became a member of the Lower Canadian Assembly, and amongst many other philanthropic enterprises, he presented valuable lands to the McGill Univ. (q.v.).

Macgillecuddy's Reeks, mt. range in Eire, in the co. of Kerry, lying to the W. of Killarney. It has sev. high peaks, including Carnal (Carrantuohill) which attains 3411 ft. In the basin between them and the Maugerton group are the lakes of Killarney.

Macgillivray, James Pittendreich (1856-1938), Scottish sculptor, b. at Port Elphinstone in Aberdeenshire. His sculptures include the Burns statue, the national memorial to Gladstone, and the John Knox Memorial.

Macgillivray, William (1796-1852), Scottish naturalist. He held the post of curator in the museum of the Royal College of Surgeons, Edinburgh (1831-41) and was prof. of botany and natural hist. in Marischal College, Aberdeen. He wrote a *History of British Birds* (1837-52); *A Text Book of Botany* (1840); and many articles.

McGill University, college in Montreal, Canada, which was endowed by James M. with property then valued at £1000. The year of foundation was 1821. Since then it has had other benefactors, among them Lord Strathcona. Under the direction of Sir Wm. Dawson (who retired in 1895, and d. 1899) it made rapid progress. The univ. has an imposing range of buildings on Mt. Royal, with facilities in the shape of laboratories, libraries, etc., for every branch of study. There are residential halls and sev. theological and other colleges are affiliated to it. It is open to women equally with men. The number of students is over 4000.

MacGregor, John (1825-92), Scottish author and philanthropist, b. at Gravesend, was called to the Bar in 1851. He contributed articles and sketches to *Punch* (1845). He invented and built a canoe, in which he journeyed up many European rivers; his book, *A Thousand Miles in the Rob Roy Canoe*, appeared in 1866, and other similar narratives followed. The profits of his writings were given to various philanthropic schemes. See life by E. Hodier, 1891.

MacGregor, Robert, see **Rob Roy**.
Machado, Antonio (1875-1939), Sp. poet, b. at Seville. For a time he taught Fr. at Baeza and later was prof. of Fr. at Segovia. Among his best books are *Soledades* (1903), and *Campos de Castilla* (1912). See study by E. A. Poers, 1940.

Machado, Manuel (1874-1947). Sp. writer, b. at Seville, brother of the above. He arranged plays by Lope de Vega, and wrote Andalusian poetry, including a fine sonnet to de Falla.

Machærodus, or **Sabre-toothed Tiger**, extinct carnivore, as large as a lion, with the upper canine teeth sabre-shaped and extraordinarily developed. Its remains are found in Pleistocene strata in S. Britain and other parts of Europe, in India, and in S. America.

Machale, John (1791-1881), Irish ecclesiastic, b. at Tobbernavine, Co. Mayo; educated at Maynooth College and, after ordination, was appointed lecturer in theology there. In 1820 appeared the first of a series of letters signed 'Hierophilos' directed against the co-education of the Rom. Catholics and Protestants. He was consecrated a bishop in 1825 and, despite opposition, was made archbishop of Tuam in 1834, in which position he continued to express his views against mixed schools and colleges even in face of the acquiescence of three archbishops and fifteen bishops in the scheme for creating national schools. This confirmed his popularity, which was further enhanced by his uncompromising aversion from everything Eng. When Newman came to Ireland M. openly opposed him on the ground that an Englishman was not wanted in a univ. in Dublin, and he quarrelled with Archbishop Cullen over the Catholic Univ., but his eccles. influence gradually waned as that of Cullen grew. M. also associated himself with the agitation of Daniel O'Connell for the emancipation of the Irish Catholics. M. trans. the Pentateuch into Irish, as part of an *Irish Translation of the Holy Bible* (Dublin, 1861). In 1841 he pub. an Irish trans. of sev. of Moore's *Irish Melodies* (later ed. 1871). He also trans. the *Iliad* into Irish verse in eight books (1844-71). His trans. showed some ingenuity, but also little acquaintance with the spirit or measures of Irish poetry. In 1851 he pub. in Irish *The Way of the Cross* by St. Alphonsus Liguori (q.v.). See also MORAL THEOLOGY.

Machar, Josef Svatopluk (1864-1942), Czech poet b. at Kolín. He began as author with verses in which the influence of Musset and Heine was evident, and later, wrote objective poems on social subjects. But his chief work is a large series called collectively *The Consciousness of the Centuries* (1905-26) including *Golgotha*, *In the Days of the Hellenic Sun*, *The Poison of Judea*, *The Barbarians*, *Pagan Flames*, and *The Apostles*. He has also written two other books of verse: *They*, dealing with the Fr. Revolution and *He*, dealing with Napoleon. In his great cycle, written mainly in blank verse, one of his main themes is that life found its apogee in the Rom. Empire which was ruined by Christian morality. In a country many of whose people are Catholics, he is marked by a savage anti-clericalism. See life by V. Martinek, 1912.

Machen, Arthur Llewellyn Jones (1862-1947), Brit. novelist, b. at Chorlton-on-Wharfe and educated at Hereford Grammar

School. In this countryside, the abiding traditions of old religions strongly influenced him, and when he went to London as a young man he had the task of cataloguing a library of occult books. In his own prose, measured and musical, he wrote of strange beliefs, of mystics who walked on lonely hills in Wales, or in sinister streets in Holborn. His earliest works, apart from trans., were *The Chronicle of Clemency* (1884) and *The Anatomy of Tobacco* (1888), in imitation of Rabelais and Burton respectively. His best early work includes *The Great God Pan* (1894), *The Inmost Light* (1894), *The Three Impostors* (1895), *Hieroglyphics* (1902), *The Hill of Dreams* (1907), etc. Popularity eluded him until he wrote *The Great God Pan*. This made his reputation; though *Hieroglyphics* is highly regarded by critics; in it he proclaimed his literary creed and view of art as 'the presentment, in temporal earthly symbols, of an eternal unchanging mystery' (*The Times*, Dec. 16, 1947). From 1910 to 1921 he was on the staff of the *Evening News*, which paper pub. his fantasy *The Bowmen*. From that the legend of the Angels of Mons was born in the popular imagination. There were many who actually believed that the Brit. Army was preserved by divine intervention, visibly manifested. The best remembered of his books besides *The Great God Pan* are *The Hill of Dreams* (1922) and *The Secret Glory* (1922). The worth of his work was recognised by the award of a Civil List pension in 1932. His last books were *The Children of the Pool* (1936) and *Holy Terrors* (1947).

Machiavelli, Niccolò (1469-1527), It. statesman and author, was b. at Florence. In 1488 he was made secretary of 'The Ten,' a board which had the management of foreign affairs. In 1502 he was sent on a mission to the formidable Caesar Borgia, to make professions of friendship on the part of the Florentines. In 1507 he was sent to the Emperor Maximilian. During his mission he sent home letters on the affairs of Germany, and on his return wrote sev. reports: *Rapporto sulle Cose di Lamagna*; *Discorso sopra le Cose dell' Alemagna*; *Ritratti di Lamagna*. In Feb. 1509 he was sent to the camp before Pisa, which was besieged by the Florentines, and in 1510 to France a third time. He returned to Florence in Sept. 1510, having consolidated the alliance of Florence with France. When in 1512 the Medici possessed themselves of Florence, M. was banished, imprisoned, and put to the torture on suspicion of being implicated in a conspiracy against the Medici, but was released by the intervention of Leo X. He then withdrew from public life and wrote his *Discourses on the First Decade of Livy* and *Seven Books on the Art of War* (1519-20), and his *Principe*—not pub. until five years after M.'s death—which may be described as a guide to the perfect autocrat, and is a really great attempt to strike a new path. M. almost alone in his period saw that the world (or Italy) would never be a perfect place until things were looked at unvelled.

Men of his time had no other alternatives to the prevailing systems, but M. wished to get at the fundamental issues of life, and would have liked mankind to do likewise. Every one and everything were to be subordinated to the ends of the State. M.'s work may be said to have called an end to the unsystematised state of medieval times. The *Legazioni*, or letters of the political missions of M., which are the key to his *Principe*, were not made public till the middle of the last century. The chief works of M. not mentioned above are *La Mandragola* (1513) and *La Clizia* (1515, comedies); *Storie Fiorentine*

1912; and M. Brion, *Génie et destinée, Machiavel*, 1948.

Machicolation (Fr. *mèche*, match, combustible matter, and O.F. *roulis*, flowing), architectural term for the opening between the corbels supporting a projecting parapet; or in the vault of a portal, through which combustibles were dropped on the heads of assailants. Also a projecting structure containing a range of such openings.

Machine Drawing, see **ENGINEERING DRAWING**.

Machine Embroidery, see under **EMBROIDERY**.

Machine Guns are distinguished from small arms on the one side and ordnance or artillery on the other. Since the sixteenth century various attempts have been made to produce weapons which could fire a volley, that is, a number of projectiles fired simultaneously. All these have failed, partly because of the difficulty of loading rapidly, partly on account of the cumbersome nature of such a machine, but mainly because such a volley is too concentrated; in addition, range and aim were too uncertain till the introduction of rifling in the nineteenth century. After this revolution something approaching a useful weapon was produced, the Gatling gun, an Amer. invention, and the Fr. mitrailleuse. The former, which was an outcome of the Amer. Civil war, had a cartridge chamber to which were brought in succession ten barrels revolving on an axis. The motion was controlled by a handle turned by the server, who regulated the speed of firing by its means. The original Montigny machine gun, or mitrailleuse, was a collection of twenty-five barrels bound together and fixed. It was more cumbersome than the Gatling; it had a range of some 4500 yds., and fired from 75 to 125 rounds per min. Other similar but more successful weapons were the Gardner and the Nordenflicht, the latter more a naval weapon. In all 'jamming' was a most serious defect, and has not been completely overcome even in modern weapons. The rapidity of fire causes overheating, and yet rapidity is the essential necessity. The Maxim gun, invented by Sir Hiram Maxim, was the first machine gun to prove really efficient. The weight of this gun was 60 lb. for the 0.303" type; the mark II, converted, 64 lb. It was carried on a tripod weighing 48 lb., and the filled ammunition box weighed 21 lb. In this gun a part of the force of the recoil due to the explosion was utilised to eject the spent cartridge cases. The guns of Maxim type consist of two portions: (1) the recoiling, which moves backwards with each explosion, and so opens the breech, and which is forced back again by a fusée spring; and (2) the non-recoiling portion. The non-recoiling portion consists of (1.) a gun-metal barrel casing, which holds liquid for cooling purposes, and has three openings (used respectively for filling, drawing off, and for allowing the steam to escape); this casing is packed with asbestos, and contains the ejector tube through which empty cartridge cases are expelled from the gun; and (2.) the



NICCOLÒ MACHIAVELLI

Uffizi Gallery, Florence. Painter unknown

(1521-25); *Discorso si la Lingua di Dante, Boccaccio, e Petrarca, debba chiamarsi Italiana, Toscana, o Fiorentina*. The best eds. of his works collectively are those of Florence, 6 vols. (1782-86); 5 vols. (1796), and 10 vols. (1818); Molinat, Venice, 12 vols. (1811); Silvestri, 9 vols. (1820-22); Passerini, Panfani, Milanese, 6 vols. only pub. (1873-77). Trans. by C. E. Neville, 1675; E. Farneworth, 1762; O. E. Desmold, 1882; L. Ricci, *The Prince*, 1903; W. Marriott (Everyman's Library), *The Prince*, 1908, and *History of Florence*, 1909; and N. Hill Thompson, 1913. See lives by F. Nitti, 1876; P. Villari, 1877-82, 1895-97 (trans. 1878, 1892); V. Turri, 1902; J. Robertson, 1907; and J. H. Whitfield, 1948. See also T. B. Macaulay, *Critical and Historical Essays*, 1843; L. Dyer, *Machiavelli and the Modern State*, 1904; F. Ercole, *La Politica di Machiavelli*, 1926; E. Guillo, *Machiavelli and Modern Political Science*, 1928; D. Ferrara, *The Private Correspondence of Niccolò Machiavelli*, 1929; Count Sforza, *Machiavelli*,

breech casing, composed of two side plates and one bottom plate, closed by a cover and a rear cross-piece, and containing the buffer spring, resistance piece, and check lever. Along the bottom plate is the trigger bar. The rear cross-piece holds the firing lever and spring, a safety catch, and a shutter for examining the barrel. The recoiling portion consists of a copper-coated barrel and two side plates which carry a lock and crank. The feed block fits under the cover in a recess in the breech casing, and is provided with two slides attached to a pawl, for moving the cartridges transversely. Two stationary pawls prevent the belt from slipping. The feed block has a hand roller and steel guide to ensure the cartridges coming to the right position to be seized by the extractor. Once this gun is loaded pressure on a double trigger is all that is necessary for firing automatically. The manipulation, when once the machine is ready for action, consists merely in aiming, pressing the trigger, and tapping the gun to produce deviation of the line of fire. The principles of the Maxim gun recoiling barrel, tripod mounting, liquid cooling, and continuous belt feed were widely adopted and adapted, and its descendants include the Ger. Maxim, the Russian Maxim (cooled with glycol for low temps. and mounted on a low wheeled carriage or on skis), the Brit. Vickers, and the Austrian Schwarzlose. All these were formerly classified as heavy, and now as medium M. G., i.e. company or battalion support weapons firing ammunition of rifle calibre from a fixed mounting and capable of indirect (overhead) fire and of firing on fixed lines at night or in fog. They may cover an advance or an exposed flank against counter-attack. The range is usually from 800 to 1200 yds. for most effective work, and guns are used in sections, being placed 25 yds. apart. In the early stages of the First World War, the conspicuous advantage in the fire-power of the Ger. Army through the extensive use of the machine gun necessitated immediate steps being taken by the Allies to increase their own machine-gun armament. In the Brit. Army an immediate increase was made in the number of Maxim guns, but the rapid increase of the army made it difficult for supply to keep pace with demand. The lighter, drum-fed Lewis gun, a Belgian invention, was therefore introduced as a platoon weapon, but it was still too heavy and the nature of its tripod mounting made it, by contrast with the Vickers, inaccurate.

In the Second World War light M. G. formed the prin. infantry weapon of all armies engaged—the Brit. Bren, invented at Brno in Czechoslovakia, and the successive modifications of the Ger. M. G. 34 (popularly known in Eng. as the Spandau). The latter's steadiness and high rate of fire enabled it to combine the functions of a light, and, on a different mounting, a medium machine gun, with an automatic searching device by which, by means of a ratchet, the elevation was automatically raised or lowered with the

recoil. Light M. G. generally differ from guns of the Maxim type in that only the breech and not the whole barrel recoils. The term heavy machine gun now denotes a weapon usually of moving-barrel mechanism, fired from a fixed mounting, and throwing a half-inch or 20-mm. ball which can be armour-piercing, explosive, or incendiary. They are usually mounted in vehicles (e.g. the B.S.A.) or small warships and are used for A.A. or anti-tank fire. For cavalry, however, the Hotchkiss air-cooled pattern was adopted, as it could be fitted into a 'bucket' carried at the stirrup. The great fire-power of M. G. made them objects of interest on both sides, and emplacements were constructed for their concealment and protection. Aircraft were armed with various patterns of machine gun from the outset of the war, and aerial combats were normally fought with M. G. The experience of the First World War was reflected in subsequent military organisation in that practically every country increased its number of medium M. G. and in some machine-gun platoons and companies were a feature.

Various modifications of the machine-gun have been produced to meet the special needs of aircraft, where the problem of cooling is automatically solved by the slipstream, but a much higher rate of fire is required (e.g. the Vickers 'K'), and of armoured fighting vehicles where the recoil usually has to be reduced owing to confined space, and the spent cartridge cases are ejected into a chute where they will not impede the actions of the crew. Most modern light M. G. can be adjusted to fire single shots so that they can register on the target without betraying the presence of an automatic weapon, and this has led to the introduction of the semi-automatic arms such as the Amer. B.A.R. and carbine and the Ger. Sturmgewehr, hybrids between the light machine gun and the magazine rifle. Another development of recent date is the sub-machine gun or machine pistol.

Machinery, Agricultural, see AGRICULTURAL MACHINERY.

Machines, Automatic, self-moving M. The word automatic is applied by common consent to M. in which a simple action on the part of the operator is followed by a comparatively complicated series of movements on the part of the machine. Thus the coin-operated, or automatic delivery, machine in its simplest form is so designed that the coin inserted passes through a number of tests, e.g. size, weight, material, etc., devised to test its genuineness, after which, if accepted, it moves on to a position whereby when the drawer is pulled the mechanism allows it to open. Modern developments are on the lines of mechanisms which (a) give change when coins of a higher denomination than the price of the article are inserted, and (b) will operate when a number of coins of various denominations are inserted to make up the total of the article to be purchased. See also CASH REGISTER.

Machine Tools, see TOOLS, MACHINE.

Machpelah, name of a dist. in Hebron,

Palestine, that lay 'before,' i.e. E. of, Mamre (the place by the oaks of which Abraham pitched his tent—Gen. xlii. 18), in which was the hill of Ephron containing a cave (Gen. xxli. 9, 17). According to tradition Abraham bought the cave from the Hittite Ephron for a burial-place and there the dust of Sarah was laid. In this cave he himself is said to have been buried as were also Isaac, Rebecca, Leah, and finally Jacob (Gen. xxv. 9, xlix. 30, and i. 13). There seems no reason to doubt the truth of the tradition which identifies this cave with that under the great mosque at Hebron. It lies on the E. edge of the modern city, on the S.W. slope of the mt. This land, inclining towards the anct. city, must have formed the dist. of M., but of the cave no recent reliable account is available.

Machu Picchu, anct. city of Peru, in the Andes, discovered in 1911 by Hiram Bingham, the Amer. explorer. It is thought that M. P. may have been 'Tampu-tocto,' traditional cradle of Inca civilisation, and that it was built as a refuge when invaders occupied the Cuzco valley about A.D. 800, enjoying a high degree of invulnerability in its situation above the deep valley of the Urubamba R. Overcrowding led to its abandonment for a new Cuzco, eventually the centre of the Inca Empire. When the Spaniards arrived in the sixteenth century, the advantages of M. P. led the Incas to rebuild the city. The profusion of feminine ornaments has led to the theory that M. P. became the final home of the priestesses of the Inca sun god, the Virgins of the Sun. The remains of the city are of great beauty. In Oct. 1918 Bingham formally opened a new highway, named after him, which provides easy access to the site. See C. Sandeman, *A Wanderer in Inca Land*, 1948.

Machynlleth, parl. bor. and par. of Montgomeryshire, Wales, on R. Dovey, 10½ m. from Dolgelly. Manufactures include flannels and coarse woollen fabrics. There are slate quarries and lead mines. Owen Glendower summoned a parliament here in 1402. Pop. 2000.

Macintosh, Charles (1766–1843), Scottish chemist and inventor of waterproof materials. He introduced the manuf. of sugar of lead from Holland (1786), started the first alum works in Scotland (1797), and obtained a patent (1825) for converting malleable iron into steel, helping Neilson to bring his 'hot-blast' process into use (1828). He took out a patent for his 'mackintosh' cloth in 1823. See *Memoir* by G. Macintosh.

Mack, Karl Freiherr von Leiberich, Baron (1752–1828), Austrian soldier, entered the army in 1770, fought against the Turks, and became field-marshal in 1797, commanding the Neapolitans against the Fr. He took Rome, but failed to hold it, and was defeated by Championnet and Macdonald (Etienne-Jacques, later duke of Taranto and marshal of France), giving himself up to the Fr. Escaping from Paris (1800), he fought against the Fr. under Napoleon, but was beaten on the R. Iller and at Ulm (1805). He was im-

prisoned in Austria, but pardoned (1819). See F. L. G. von Rauner, *Historisches Taschenbuch*, 1873; I. Thiers, *Histoire du Consulat*, 1845–63; and T. Hardy, *The Dynasts* (Part I.), 1903.

Mackail, John William (1859–1945). Scottish classical scholar, b. a son of the manse, in Bute, and educated at Ayr Academy, Edinburgh Univ. and Balliol College, Oxford. At Oxford he won many distinctions, and was made an honorary scholar of Balliol. He won the Newdigate prize, and was elected to a fellowship at Balliol, but, in 1884, he entered the education dept., in the offices of whose successor, the Board of Education, he remained until his retirement in 1919. His years as a civil servant were marked by a copious stream of scholarly works, including a prose trans. of the *Eclagues and Georgics*; *Select Epigrams from the Greek Anthology* (1890); *Latin Literature*, a survey of the whole literature of anct. Rome (1895). From 1903 to 1910 he engaged in a trans. of the *Odyssey* into Omar Khayyámish quatrains, a bold interpretative effort. In 1885 he was brought into close contact with the Pre-Raphaelites by his marriage to Margaret, daughter of Sir Edward Burne-Jones, the lifelong friend of Wm. Morris, and his biography of Morris, which was pub. in 1899, besides being generally considered his best work, has been declared by critics to be one of the outstanding biographies in the Eng. language. His interest in Eng. poetry, shown by winning the Newdigate prize, received fuller scope in 1906, when he was elected prof. of poetry at Oxford, and the three vols. of his lectures, *The Springs of Helicon* (1909), *Lectures on Greek Poetry* (1910), and *Lectures on Poetry* (1911), display his knowledge and love of Gk. and Lat. poetry and a close acquaintanceship with Eng. poets from Chaucer to Keats. *The Approach to Shakespeare*, a vol. of criticism pub. in 1930, is one of the best introductions to the study of Shakespeare. Many honours came to him, including honorary degrees of Edinburgh, St. Andrews, Adelaide, Oxford, and Cambridge univs., while Balliol made him an honorary fellow in 1922. In 1924 he was appointed to the professorship of anct. literature by the Royal Academy. Fellow of the Brit. Academy, 1911, he became president in 1932, and received the O.M. in 1935. Later works include *Studies in Humanism* (1938), and *The Sayings of Christ* (1938).

Mackay, Charles (1814–89), Scottish poet, editor of the *Glasgow Argus* (1844–47), and the *Illustrated London News* (1852–59). As special correspondent at New York to *The Times* during the Amer. Civil war (1862–65), he revealed the Fenian conspiracy. His works include *The Salamandrine* (1842); *Voices from the Crowd* (1846); *Egeria* (1850); *Under Green Leaves* (1857); various prose works, and many popular songs, such as *The Good Time Coming*, *Cheer Boys! Cheer!* (see *Collected Songs*, 1859). Miss Correll was his adopted daughter. See his *Through the Long Day* (1887).

Mackay, Hugh (c. 1640–92), Scottish general, fought for Charles II. after the

Restoration (1660), and then for France against Holland. He married a Dutch lady (1673), and later attached himself to William of Orange (1689), accompanying him to England. Sent against Claverhouse, M. was defeated at Killiecrankie. He served in Ireland (1691), and fell fighting in Flanders at Steinkerk. See G. Burnet, *History of his Own Times*, 1724-34; M. Napier, *The Life and Times of Claverhouse*, 1859-62; also life by J. Mackay, 1836.

Mackay, John William (1831-1902), Amer. capitalist, called the 'Silver King.' He emigrated from Ireland to New York (1840), moved to California in 1851, and to Nevada in 1852. He bought many shares (1873) in the Bonanza mines of the Comstock lode, and after disappointments became very rich. With Flood and other partners he estab. the Bank of Nevada in San Francisco. In 1884, with J. G. Bennett, he formed the Commercial Cable Company and the Postal Telegraph Company, to fight Jay Gould and the W. Union.

Mackay, seaport and municipality of Carlisle co., Queensland, Australia, on Pioneer R. The harbour has been much improved by repairing the N. wall and raising the director wall to above high water. It is the centre of a sugar region. Coal is found. Pop. 6000.

McKeesport, tn. of Allegheny co., Pennsylvania, U.S.A., close to the iron centre of Pittsburgh, with iron and tin works of its own. Its lumber mills and iron works are said to be the largest in the world. Coal and iron are produced, and steel tubes, pipes, and sheet steel. On the Monongahela R., the bor. takes its name from a prominent citizen, John McKee. Pop. 53,300.

McKees Rocks, vil. of Allegheny co., Pennsylvania, U.S.A., 3 m. from Pittsburgh, on the Ohio. Coal and lumber are shipped. There are car-shops, iron and steel works, and glass manufs. Pop. 17,000.

McKenna, Reginald (1863-1943), Brit. financier, b. in London. Elected M.P. for N. Monmouthshire, 1895, he represented that constituency till 1918. He was financial secretary to the Treasury on the formation of Campbell-Bannerman's Gov. in 1905. Made Privy Councillor and promoted to Cabinet rank in 1907; he was president of the board of education, 1907-1908, and First Lord of the Admiralty, 1908-11, and during his term of office he caused eight more ships of Dreadnought type to be built; and while home secretary, 1911-15, he had charge of the Welsh Disestablishment Bill (1912). In 1915 he succeeded Lloyd George as chancellor of the exchequer, raised nearly £600,000,000 by a 4 per cent loan, and, as part of war-taxation, along with an excess-profits tax, introduced the McKenna duties (q.v.). He also inaugurated the issue of war-savings certificates. In 1916 he imposed new duties on amusements, railway tickets, matches, and mineral waters. He left office when Lloyd George became Prime Minister, 1916. In 1919 he became chairman of the London City and Midland

Bank—now the Midland Bank—retaining the post up to the time of his death. As a member of the Macmillan Committee on Finance and Industry he signed the report which appeared in 1931 just before the abandonment of the gold standard. See S. McKenna, *Reginald McKenna, a Memoir*, 1948.

McKenna Duties. During the First World War the national expenditure in the belligerent countries was so great that, for example, in Great Britain it was estimated that an expenditure of £1,132,500,000 would be incurred for the financial year 1915-16. Of this huge sum £978,000,000 would be required to meet the credits already voted in the House of Commons. The revenue for the year had been estimated at £267,000,000. In the autumn of 1915 Reginald McKenna, chancellor of the exchequer, introduced a supplementary budget in the House of Commons. The amount required for the financial year had risen now to close on £1,600,000,000, of which over £1,400,000,000 were required to satisfy the credits already voted. The duties on tea, coffee, cocoa, were increased by 50 per cent, and the duty on sugar was raised from 1s. 10d. per cwt. to 9s. 4d. per cwt.; 9d. a gallon was added to the duty on motor spirit, and an *ad valorem* duty of 33 per cent was imposed upon all imported motor cars, cinema films, clocks, watches, musical instruments. The duties, which became known as the McKenna Duties, were repealed by the first Labour Gov. in 1921, but were reimposed by Mr. Winston Churchill, the Conservative chancellor of the exchequer, in 1925. By various finance Acts the 'safeguarding duties,' as they were called, were subsequently extended and renewed on a temporary basis; but in 1932 further extensions were rendered unnecessary by reason of the inception of the protective tariff in the United Kingdom.

Mackennal, Sir Bertram (1863-1931), Australian sculptor, b. in Melbourne, studied art in France. His work soon won him public recognition and he was chosen to carve sev. statues of Queen Victoria, for Australia, Lahore, and Blackburn, and, later, to design the coinage issued on the accession of George V. In 1889-91 he was engaged on the decoration of Gov. House, Melbourne. His other works include the national memorial to Gainsborough, memorials to Edward VII. in St. George's Chapel, Windsor, and elsewhere, and much small decorative sculpture. A.R.A., 1909; R.A., 1922.

Mackensen, Anton Ludwig Friedrich August von (1849-1915), Ger. field-marshal; b. at Haus Lohpitz, near Wittenberg, son of Ludwig M., land agent to Count Alten. In 1869 he entered the 1st Leibhusaren regiment (King's Own Hussars), and served in France 1870-71. He joined the grand general staff 1880, was made captain 1882, major 1888, and colonel 1897. In 1898 he accompanied William II. to Palestine, and in 1899 was ennobled. Major-general in 1900, he became Lieutenant-general in 1903, and

general of cavalry commanding 17th Army Corps on the Vistula, 1908. At the opening of the First World War on the E. front he commanded the Ninth Army, repulsing the Russians at Kutno, Lodz, and Lowicz. In April 1915 he led the forces in W. Galicia, assisting in the break-through at Gorlice. On June 26, 1915, he was made field-marshal, and in Aug. and Sept. again repulsed the Russians, at Brest-Litovsk and Pinsk. In Oct. and Nov. he commanded the army that overran Serbia. In 1916 he completed the conquest of Rumania by subduing the Dobruja dist. After the armistice his troops retiring, he surrendered at Budapest, Dec. 1918. He was detained first at Futak Castle, near Neusatz (now Novi Sad, Yugoslavia), and then at Salonika, for nearly a year. See his *Geschichte der Leibhusaren-regiment* (1892); and essays on army and war hist. in the *Militär Zeitschrift*. See study by M. Luvken, 1920.

His third son, Everhard von M. (b. 1889) was an army commander in the Second World War. In 1947 he was sentenced to life imprisonment for his part in the massacre of 335 It. in the Argentine caves.



Public Archives of Canada
SIR ALEXANDER MACKENZIE

Mackenzie, Sir Alexander (c. 1755 c. 1820), Canadian explorer, b. of Scottish parents in Stornoway, Isle of Lewis (the site of his bp. is denoted by a mural tablet on Martin's Memorial Church). Early in life he emigrated to Canada, and for eight years (1781-89) traded in fur with the Indians at Lake Athabasca. His famous expedition of June-July 1789, consisting of three canoes with Indians, crossed Great Slave Lake and paddled down the riv. which now bears his name. He thought that the riv. which Cook had found flowing into Cook's Inlet might be connected with that which flowed N. from Lake Athabasca. Finding that it flowed into the Arctic, and not into the Pacific,

he named it R. Disappointment, but resolved to go to its mouth and on July 12 he reached the ocean. By Sept. 12 he was back at the Hudson's Bay Company's post of Fort Chipewyan, having travelled 3000 m. in 102 days, and having put on the map one of the continent's greatest rvs. One more possibility of a route to the Pacific still lay open, the Peace R., as it is now called, and M. resolved to explore it. He did not find an easy route to the Pacific, but his small party, starting from a post he had estab. on the Peace R., got to the head-waters of the Fraser R., and he then decided to do the rest of the journey overland. Starting afresh up the Blackwater valley on a stiff march his party got down to the Bella Coola R., and after fifteen days reached the salt water of an inlet. Three days' paddling took him still further towards the open sea into Dean's Channel, where hostile Indians forced him to turn back, but before doing so he had determined his position. The journey had taken seventy-two days, and in thirty-three more M. was back at his post on the Peace R. The real significance of his journey is that he was the first explorer to penetrate the Rocky Mt. barrier, and his historic exploit was, in fact, a forecast of the expansion of Brit. N. America from sea to sea. On his return to England in 1801 he pub. *Voyages from Montreal to the Frozen and Pacific Oceans*. See F. R. de Chateaubriand, *Voyages en Amérique*, 1824, and G. W. Brown, *Building the Canadian Nation*, 1942.

Mackenzie, Alexander (1822-92), Canadian statesman, b. at Dunkeld, Perthshire, Scotland. He emigrated to Canada in 1842, and settled at Kingston, Ontario, where he became a builder and contractor. In 1867, on the union of Canada, he was elected to the Dominion Parliament, and became leader of the reform opposition. In 1873 he organised a Liberal ministry, and became the first Liberal premier of Canada. On its fall in 1878 M. led a brilliant opposition for two years. He was a strong supporter of the close union of Canada and Great Britain, and his ministry is said to have been the purest experienced by Canada.

Mackenzie, Sir Alexander Campbell (1817-1935), Scottish musical composer, teacher of music, and violinist, b. at Edinburgh. His forbears for many generations were professional musicians, his father being leader of the orchestra of the Theatre Royal, Edinburgh, and a writer of many successful songs. M. studied music in Germany, learning the violin under K. W. Ulrich and harmony under Edward Stein, and in London, under Salton and Charles Lucas. One time the conductor of the Philharmonic Society, he became (1888) principal of the Royal Academy of Music on the death of Sir George Macfarren, the institution making remarkable progress under his control. His early works of importance include *The Bride*, a cantata (1891); *Jason* (1892); and an opera *Colomba* (1893). His *La Belle Dame sans Merci* (1893) and *The Dream Jubal* (1899) are also beautiful, if rarely heard, musical compositions. After he

had become principal of the Royal Academy of Music, he did not give up his work of composition, producing, at this later period, *The Pibroch* (1889), the *Britannia* overture (1894), and the *Scottish* Pianoforte Concerto (1897). His other compositions include incidental music to *Coriolanus* and *The Little Minister*, three Scottish Rhapsodies, two oratorios, *The Rose of Sharon* (1884) and *Bethlehem* (1894), part-songs, *Coronation March* (1902), and anthems, etc.

Mackenzie, Charles, *see* COMPTON, HENRY.

Mackenzie, Compton, Brit. novelist, *b.* at W. Hartlepool, Jan. 17, 1882, of a literary and theatrical family; the son of Edward Compton, his full name is Edward Montague Compton, and he adopted the name M. from Scottish ancestry on his paternal grandmother's side. He was educated at St. Paul's School and Magdalen College, Oxford, and studied for the Bar. Forsaking law, he wrote a play, *The Gentleman in Grey*, produced in Edinburgh in 1907, but his career was decided by the outstanding success of his first three novels: *The Passionate Elopement* (1911); *Carnival* (1912); and *Snister Street* (2 vols., 1913-14). The last named in particular estab. a vogue for the realistic biographical novel, a genre to which he returned in 1922 with *The Altar Steps*. His carefully wrought love story of the Eng. country before the war of 1914, *Guy and Pauline*, was pub. in 1915, being written at Capri in that year in which M. was invalided out of the Royal Marines after service in Gallipoli. During the latter years of the war he was military control officer in Athens, and in 1917 director of the Aegean Intelligence Service. His experiences at that time became the subject of three books: *Gallipoli Memories* (1929); *Athenian Memories* (1931); and *Aegean Memories* (1940). The latter first appeared as *Greek Memories* in 1932, but was banned under the Official Secrets Act. As a writer he possesses remarkable insight into the contemporary scene, power of description, and on the whole a stronger grasp of events than of character, his romantic conception of character contrasting with the realism of his background. He has written over thirty novels, including the notable series, 'The Four Winds of Love'—*The East Wind* (1937); *The South Wind of Love* (1937); *The West Wind of Love* (1940); *West to North* (1940). In 1923 he founded the magazine *The Gramophone*, which he has since ed. He is a chevalier of the Legion of Honour, and was appointed lord rector of Glasgow Univ. in 1931.

Mackenzie, Sir George (1636-91), Scottish lawyer, author, and politician, *b.* at Dundee. He entered the Scottish Parliament in 1669 as member for Ross-shire, and became king's advocate in 1677. In spite of his professional work he found time for literature, and pub. *Religio Stoici* (1663); *Moral Gallantry* (1667); *Discourse on the Laws and Customs of Scotland in Matters Criminal* (1678); *Institutions of the Laws of Scotland* (1684); and *A Moral Essay, Preferring Solitude to*

Publick Employment (1685). As criminal prosecutor in the days of the Covenanters, he earned the nickname of 'bluddy Mackenzie.' *See* A. Lang, *Sir George Mackenzie, King's Advocate, his Life and Times*, 1909; and *libo* by T. Ruddiman, prefixed to his *Collected Works*, 1716-22.

Mackenzie, Henry (1745-1831), Scottish novelist, was by profession a lawyer and practised in Edinburgh, later becoming Crown attorney for Scotland. In 1804, for his political services, he was appointed comptroller of taxes for Scotland. It is, however, as a writer he is best remembered. In the late sixties he began to compose his best-known work, *The Man of Feeling*, which was pub. anonymously in 1771, and attracted much attention. Two years later, designed as a contrast to the earlier work, appeared *The Man of the World*, which was at once prolix and dull, and in 1777 appeared his *Julia de Roubigné*, written in a strain of high-wrought sentimentalism. His work shows strongly the influence of Sterne. His *Anecdotes and Egoisms*, first pub. in 1927 (ed. by H. W. Thompson), is an entertaining work of his old age.

Mackenzie, Sir Morell (1837-92), Eng. physician, *b.* at Leytonstone, Essex, and educated professionally at the London Hospital Medical College, Paris, and Budapest. At the London Hospital he held successively the posts of medical officer, assistant physician, and physician from 1860 till 1874, when he resigned. The London Throat Hospital was founded by him in 1863, and his skill as a laryngologist led to his attending the Emperor Frederick III. of Germany in his fatal illness. His most important pub. are: *Diseases of the Throat and Nose* (2 vols.); *The Use of the Laryngoscope*; *Essay on Growths in the Larynx*; *The Hygiene of the Vocal Organs*, etc. *See* *lives* by H. R. Haweis, 1893, and R. S. Stevenson, 1946.

Mackenzie, William Lyon (1795-1861), leader of the Canadian rebellion of 1837-1838, *b.* at Dundee, Scotland. He emigrated to Canada in 1820 and settled in Queenstown, where he became a journalist and ed. a newspaper entitled the *Colonial Advocate*, in which he took an extreme stand against the gov. and violently attacked the Family Compact, or system by which, in each colony, power lay in the hands of a small minority of wealthy and influential people. M. was fearless and sincere, but he poured out such a stream of abuse on his opponents that he aroused the most bitter resentment. He was elected to the legislature, but was expelled for alleged libel on the ministry. He visited the U.S.A. in 1829, and was sent to England in 1832 as the delegate of his party, to appeal against certain abuses. In 1834 he became mayor of Toronto and founded the Canadian Alliance Society. In 1837 he led the rebels in the insurrection of Upper Canada. They were, however, utterly defeated, and M. escaped to the U.S.A. till 1849, when the Canadian Gov. granted an amnesty to all who had taken part in the rebellion, enabling him to return to Toronto. Mr. Wm. Lyon M. King (*q.v.*)

is a grandson of M. See life by C. Lindsay, 1802.

Mackenzie King, William Lyon, see KING.

Mackenzie: 1. Former ter. of N. Canada, now included in the N.W. Ter. (q.v.). 2. Riv. of N. America, originates as the Athabasca in Brit. Columbia, and flows over 600 m. to Lake Athabasca, whence it issues as the Slave R., and after a course of 240 m. enters the Great Slave Lake. As the M. R., it leaves the W. end of the lake and flows into the Arctic Ocean, its final course being estimated at more than 1080 m. Its most important tribs. are the Liard, or Mountain R., Peel R., and Bear R., from Great Bear Lake; near its mouth it forms an intricate delta. This great waterway was first discovered by Sir Alexander Mackenzie in 1789.

Mackerel, popular name given to all members of the Scombridae, a family of teleostean fishes inhabiting the Atlantic, Indian, and Pacific oceans. They are fusiform fishes, covered with small scales, or occasionally with a naked skin surface; the eyes are lateral; the teeth well developed; there are two dorsal fins and generally finlets; the pseudo-branchiae are well developed, and the air-bladder is small, or may be missing entirely. The M. are widely distributed, and are greatly valued as food. Their general colour is reddish, owing to their having a larger supply of blood and nerves than is the case with other fishes, and their temp. also is sev. degrees higher. The back is marked by alternate bands of black and green, and the sides are brilliantly iridescent. In habit these fishes are generally pelagic and spawn in the open sea; they travel at considerable speed. *Scomber scombrus*, the common M., found in the N. Atlantic, has no air-bladder; *S. pneumatophorus* has an air-bladder. *Thunnus*, the tunnies, also belong to this family. *Th. thynnus*, the largest species, reaching a length of 10 ft.; *Th. pelamys*, the bonito, pursues flying-fish, and other species of this genus are provided with long pectoral fins and are called by sailors albacores. Allied genera include *Pelamys*, *Cybius*, *Acanthocybius*, and *Rhacoeconus*. Fossil forms of Scombridae are found in the Eocene and Miocene strata.

Mackinder, Sir Halford John (1861-1947), Eng. geographer, educated at Epsom College, and Christ Church, Oxford. A paper of his on *The Scope and Methods of Geography* so much impressed the council of the Royal Geographical Society that on the society agreeing to subsidise univ. lectures in the subject, M. was appointed to Oxford, he being the second reader in geography to lecture at Oxford since the celebrated Richard Hakluyt. In an address to the Brit. Association in 1895 M. proposed a scheme for a Univ. Institute of Geography where physical and human teaching might be collated, and a few years later his plan was realised as the Oxford School of Geography. In 1899 he led an expedition to Mt. Kenia and climbed the summit of the peak Batian (17,000 ft.). The following year he became reader, and,

later, prof. of geography at London Univ. He succeeded W. A. S. Howins (q.v.) as director of the London School of Economics and Political Science, while continuing as reader at Oxford. His pub. lectures include *Britain and the British Seas* (1902, 1930); *The Rhine, its Valley and History* (1908); *Eight Lectures on India* (1910). In 1910 M. was elected as Unionist member for the Camlachie div. of Glasgow and kept his seat till 1922. He will be chiefly remembered for his theories of geopolitics, a science which in some sort he may be said to have created (see under GEOPOLITICS). He put to the practical test in his political career the main idea of his science, namely the influence of geographical environment upon political development, and the value of geography as a factor in social reconstruction. See especially his *Democratic Ideals and Reality* (1919), which approached politics in a new spirit, stressing the importance of technical knowledge and its scientific application to human relations. He was sent to Russia on a mission as Brit. high commissioner for S. Russia, being knighted on his return. He became Privy Counsellor in 1926 and was chairman of the Imperial Shipping Committee from 1920 to 1945.

Mackinlay, Mrs. J., see STERLING, ANTOINETTE.

McKinley, William (1843-1901), twenty-fifth president of the U.S.A., b. at Niles, Ohio. When the Civil war broke out, he enlisted as a private in the Ohio volunteer infantry and finished as a major. At the end of the war he returned home to study law. He identified himself with the Republican party, and rapidly became known as an able speaker. In 1876 he was elected to Congress. In 1889 he was Republican leader in the House of Representatives, and chairman of the Committee of Ways and Means; as such he introduced and carried the great measure of 1890 known as the M. tariff, which raised the tariff by 50 per cent on the average. In 1891 became governor of Ohio, and was re-elected in 1893. In 1896 he was elected president of the republic, and again in 1900. The Sp.-Amer. war was the chief event of his first term of office. He visited the city of Buffalo (New York) to deliver a public address, a great reception being held for the president on the day following. A Pole, Leon Czolgosz, fired at the president with a revolver. He d. from the effects of his wounds a few days later. His assassin was said to be an anarchist, and was executed in Oct. 1901. Although not taking rank among the greatest presidents he was undoubtedly one of the most popular the country has ever had. His generous motives, the purity of his life, and his devotion to his ailing wife won the Amer. heart. See lives by C. S. Olcott, 1916, and J. G. Butler, 1924.

McKinley, Mount, is situated in Alaska, N. America, and the highest point in that continent. It rises to a height of over 20,000 ft., with glaciers on every side. Dr. Cook laid claim (later disallowed) to having ascended the mt. in 1906 (see

COOK, FREDERICK ALBERT), and in June 1913 a party led by Archdeacon Hudson Stuck accomplished the feat.

Mackinnon, Sir William (1823-93), *b.* in Argyllshire, founder of the Brit. E. Africa Company, and co-founder, with Robert Mackenzie, of the Brit. India Steam Navigation Company which, under his inspiration, created a huge trade around the coasts of India and E. Africa. In 1878 M. leased the coastal ter. between Tunga and Warshelk (formerly the sultan of Zanzibar's mainland ter.) and inland to the E. prov. of the Congo Free State; but the Brit. Gov. refused to ratify this remarkable concession, which would have then secured for Great Britain the whole of what eventually became, under the evil genius of Carl Peters (see KIM, SIR JOHN), Ger. E. Africa. In 1886, however, the Brit. Gov. availed itself of M.'s influence to secure the coast line from Wanga to Kipini and a charter was granted to the Imperial Brit. E. Africa Company (formally incorporated on April 18, 1888) for opening up trade. Among the objects of the company were the abolition of the slave trade, the checking of trade monopoly, and the securing of equal treatment for all nationalities. The ter. of the company, which included Mombasa, was finally taken over by the Brit. Gov. in 1895 for a cash consideration. It is not an overstatement to say that, but for the energy of M., Brit. trade and civilising influence would have been almost entirely excluded from E. Africa, and his work there is comparable with that of Sir George Goldie for W. Africa. M. took a prominent part in the Stanley expedition for the relief of Emin Pasha.

Mackintosh, Charles Rennie (1868-1928), Scottish architect and painter, *b.* in Dennistoun, Glasgow, and educated at Glyn's school there and at the Glasgow School of Art. Apprenticed to a local architect and, having won a travelling scholarship, toured France and Italy. Awarded the Soane gold medal of the Royal Institute of Brit. Architects, 1902; fellow in 1906. He won the limited competition held in 1894 for the new Glasgow School of Art buildings, which were, however, only completed in 1909. It is on these designs that his reputation mainly rests, though he was much better known on the Continent than in Great Britain. He also designed Queen's Cross Church, Glasgow, and (with George Walton) the decorations and furnishing of Cranston's tea-rooms in Glasgow (1897-1904) and also, abroad, the Scottish pavilion at the Turin exhibition (1902)—this leading to his exhibitions in Venice, Munich, Dresden, and other European cities. A pioneer of *art nouveau*, he used its mannerisms as an integral part of an architectural idiom freed from all traces of historical tradition. His work had a strong influence on continental decorative design, but, as his sensitive genius knew little development, there is no direct link between his modernism and the structural evolution of modern architecture—as there is, for example, in the work of Norman Shaw. After 1913 he devoted

himself to landscape painting, especially water-colours—'La Rue du Soleil' and 'Le Fort Maillot' (1927). See N. Pevsner, *Pioneers of the Modern Movement*, 1938.

Mackintosh, Sir James (1765-1832), Brit. philosopher, studied medicine and took his degree in 1787. Eight years later he was called to the Bar, and from 1818 until 1824 was prof. of law and general politics at Haileybury. For sev. years he sat in the House of Commons. He became known in 1791 through his *Vindiciæ Gallicæ*, which was a reply to Burke's *Reflections on the Revolution in France*. He was the author of many works, including a *History of England* (1830), a *History of the Revolution in England in 1688* (1834), and various philosophical writings. See life by R. J. Mackintosh, 1836.

Maeklin, Charles (c. 1697-1797), Irish dramatist and actor, began his theatrical career about 1725, and in his profession attained to a high position, one of his most successful roles being Shylock. He acted mainly at Covent Garden until his retirement from the stage in 1789. He wrote many plays, and produced most of them himself. In 1759 he produced *Love à-la-mode* at Drury Lane, in which he acted with his daughter Charlotte. This and *The Man of the World*, played at Covent Garden in 1781, were his most successful plays. See lives by F. A. Congreve, 1798, and Judge Parry, 1891.

Maclaren, Ian, see WATSON, JOHN.

Maclaurin, Colin (1698-1746), Scottish mathematician, was a native of Argyllshire. He was educated at Glasgow Univ. and in 1717 was appointed prof. of mathematics at Marischal College, Aberdeen. His next appointment was to the chair of mathematics at Edinburgh Univ. in 1725. He was instrumental in preparing the defences at Edinburgh against the Pretender in 1745. He is remembered for his contributions to science with regard to the principles of fluxion which helped to explain the theory of the tides. In 1740 he shared with Euler (*q.v.*) and Daniel Bernoulli (*q.v.*) the prize offered by the Pr. Academy of Science for an essay on the flux and reflux of the sea. This essay was subsequently revised by M. and included in his *Treatise on Fluxions*. M.'s purpose in this treatise was to found the doctrine of fluxions on geometrical demonstration and he thus laid down the grounds of the fluxional method, regarding fluxions as velocities, after Newton; but the most valuable part of the work is that devoted to physical applications, in which he incorporated his essay on tides. In this he investigated the attraction of an ellipsoid of revolution, and demonstrated that a homogeneous fluid mass revolving uniformly round an axis under the action of gravity must assume the form of an ellipsoid of revolution. The significance of his investigation in relation to the theory of the tides, the shape of the earth, and kindred questions, has always caused it to be regarded as one of the cardinal problems of mathematical physics. Among his writings are *A Treatise on Fluxions* (1742) and *An Account of Sir*

Isaac Newton's Philosophical Discoveries (1748).

Macle, in crystallography, a term used for the phenomenon otherwise known as twinning. This occurs when two crystals have a common face and are so disposed that one may be brought into the position of the other by rotation about an axis called the twin-axis. The term was once generally used, but is now only found with any frequency among Fr. writers. The mineral known as chialstolite, consisting of aluminium silicate with magnesium and iron, is also called M. It is commonly used for making beads for rosaries.

McLean, Norman (1865-1947), Brit. orientalist, b. at Lanark, son of the Rev. Daniel M. of Jamaica. He was educated at the high school and univ. of Edinburgh and at Christ's College, Cambridge, where he remained for the rest of his life, becoming master in 1927. Heb. lecturer at Christ's College, and later univ. lecturer in Aramaic. He collaborated with Prof. A. E. Brooke on their life work, the preparation of the larger Cambridge ed. of the Septuagint, of which the 2 vols. from Genesis to the second book of Chronicles appeared between 1900 and 1932. To the *Encyclopædia Biblica* M. contributed, in co-operation with Sir Arthur Shipley and others, a series of articles on the flora and fauna of the Bible. But his most valuable work was in Syriac, where his name will always be associated with that of Wm. Wright, whose pupil he was. He wrote numerous articles for the eleventh ed. of the *Ency. Brit.* on Syriac literature.

McLean: 1. Tn. of Clarence co., New S. Wales, on the Clarence R., 28 m. N.E. of Grafton. Pop. 2000. 2. Co. of N. Dakota, U.S.A., having for its W. boundary the R. Missouri. Pop. 16,000.

MacLeish, Archibald (b. 1892), Amer. poet, b. at Glencoe, Illinois, U.S.A. Educated at Yale and Harvard. His early verse, *Tower of Ivory* (1917), embodies his subjective experiences as a soldier in the First World War and there is a return to this individualistic mood in *The Humble of A. MacLeish* (1928). This latter work and the interim vols. of verse, *The Happy Marriage* (1924), *The Pot of Earth* (1925), and *Streets in the Moon* (1926), reveal the influence of T. S. Eliot and Ezra Pound. His *Conquistador* (1932) was awarded the Pulitzer prize. It is an epic in verse based on the eye-witness account of Bernal Diaz del Castillo (q.v.) entitled *The True History of the Conquest of Mexico* (1632). In *Public Speech* (1936) he begins to show his growing preoccupation with collectivist social theory, and in similar vein is his *America War Promises* (1939)—a call to save democracy. After the First World War he practised law for a time and then became assistant editor of *Fortune* and afterwards director of the Harvard School of Journalism. In 1939 he was appointed librarian of Congress and in 1944 he became an assistant secretary of state. His other works include *Panic* (1935), a verse drama; *The Fall of the City* (1937), a radio verse

play illustrating the hollowness of totalitarian dictatorship; *The Irresponsibles* (1940), a rebuke to contemporary writers and scholars for their indifference towards democracy; and various essays.

Macleod, Fiona, see SHARP, WILLIAM.
Macleod, John James Rickard (1876-1935), Brit. physiologist, b. at Cluny, near Dunkeld, Scotland. He was educated at Aberdeen Grammar School, Marischal College, Aberdeen, Leipzig, and Cambridge. Demonstrator in physiology, London Hospital, 1899-1902, he was prof. of physiology, Western Reserve Univ., Cleveland, Ohio, 1903-18. He was president of the Amer. Physiological Society, 1922, F.R.S., 1923, sharer in the Nobel prize for medicine, 1923, and president of the Royal Canadian Institute, 1925. His publs. include works on general physiology, on metabolism of carbohydrates, and on diabetes and insulin, of which he is one of the inventors.

Macleod, Norman (1812-72), Scottish author and minister, a native of Campbelltown, Argyllshire. He was educated at Glasgow Univ., and studied divinity in Edinburgh, becoming a minister at Loudon in Ayrshire (1838). In 1843 he went to Dalkeith, and in 1852 to the Barony church, Glasgow, as minister. He became one of the most distinguished ministers and most popular preachers of his Church and, in 1857, was made one of the royal chaplains in Scotland, and became a trusted friend of Queen Victoria. Among his literary works are *Eastward* (1866); *Reminiscences of a Highland Parish* (1867); and *Peeps at the Far East* (1871); as well as articles in *Good Words*, which he ed. (1866 et seq.). See memoir by Donald M., 1876.

MacLise, Daniel (1806-70), Irish painter, came from Cork to London in 1827, and acquired fame as a portrait painter. He was elected a member of the Royal Academy in 1840, and subsequently refused the presidency of that institution. In the late fifties he painted two magnificent frescoes in the Royal Gallery of the House of Lords. He is, perhaps, most popularly known for the long series of character sketches of notable folk which he contributed to *Fraser's Magazine* (1830-38), which have been collected under the title of *The MacLise Portrait Gallery* (1874, 1882).

McLoughlin, John (1784-1857), fur trader, a founder of Brit. Columbia and of Oregon and a famous servant of the Hudson's Bay Company, b. at Rivière du Loup, of mixed Scottish, Irish, and Fr. ancestry. He studied medicine in Quebec, qualifying as a physician at nineteen after serving an apprenticeship with Dr. James Fisher, who was regarded as the father of medical legislation in Lower Canada. He joined the N. W. Company (which had not then amalgamated with the Hudson's Bay Company) about 1803 to try his fortunes as a young physician and acted as surgeon at Kamistiquia—a proposal being made about the same time by Simon McTavish, the most influential figure in the company, that he should enter the fur trade. 'This sad experiment,'

as he termed it, expired in 1808 and it is evident from his letters that he very nearly gave up the fur trade. But by 1814 he had become a partner in the N. W. Company, being in charge of the Rainy Lake Dist. Seven years later he accepted a commission in the Hudson's Bay Company as chief factor, and in 1823 was put in charge of the Columbia dept. The following year he was in charge at Fort George (Astoria) but soon afterwards transferred his headquarters to Fort Vancouver, which he built. He occupied a nearly independent position under the famous George Simpson (see HUDSON'S BAY COMPANY), the greatest figure in the hist. of the Hudson's Bay Company, and over a period of twenty-five years did more than any other man to lay the foundations of commerce along the Brit. Columbian coast. He sent out expeditions which built strategic points along the sea and far up into the interior. One of them chose the site of Victoria; and Fort Vancouver became not only a fur-trading centre but a prosperous agric. community. He enforced law and order with a firm hand, but with all his firmness he was just and humane and was loved and admired by Indians and whites alike. Called 'the Great White Eagle' by the Indians on account of his flowing white hair, he reigned over the whole Columbian region almost like a feudal lord. To-day his name stands high among the founders of both Brit. Columbia and Oregon. See F. V. Holman, *Dr. John McLaughlin*, 1807; R. G. Montgomery, *The White-headed Eagle: John McLaughlin, Builder of an Empire*, 1935; R. C. Johnston, *John McLaughlin, Patriarch of the North-West*, 1935; E. K. Rich (editor), (Champlain Society), *McLaughlin's Fort Vancouver Letters* (three series: 1825-38, 1839-44, and 1844-46), 1912-45.

MacMahon, Marie Edmé Patrice Maurice de (1808-93), duke of Magenta, marshal of France, and second president of the third republic, b. at Sully, Seine-et-Loire, France, of Irish descent. He graduated at the military school of St. Cyr, and served in the Algiers campaign of 1830. In 1835 he went to the Crimea, and took part in the operations against Sebastopol successfully assaulting Malakov. On the outbreak of the war with Austria in 1859 he distinguished himself at the battle of Magenta, and again at the battle of Solferino. In 1870 he was defeated at Welsenberg and at Worth. In 1871 he was called to the army of Versailles to recover Paris from the Commune, and on Thiers's resignation in 1873 he was elected president of France, resigning six years later. See E. Daudet, *Le Maréchal de MacMahon*, 1883; L. Lafarge, *Histoire complète de MacMahon*, 1898; and L. Rousset, *La France sous la troisième République, et la république conservatrice*, 1929.

Macmillan, Daniel (1813-57), Eng. publisher, and senior partner of a business which was founded in 1843 and afterwards carried on so successfully by the younger brother Alexander (1818-96). The first vol. with the name of M. on the title-page

was A. R. Craig's *Philosophy of Training*. Seven years later (1850) the firm adopted the title M. and Co., which it has retained ever since. Daniel M. began life as an assistant to a bookseller in Cambridge, in whose house he learned his trade and acquired a taste for literature. Alexander, who was also of Scottish birth, was a publisher of the 'old school,' whose intimate association with contemporary men of letters has been made the subject of a memoir. After his brother's death he transferred the business in 1858 from Cambridge to London, and with the increase of trade, was able to open a branch in New York (1869). The firm began by specialising in technical and educational works and still holds important copyrights in books of this class. A great factor in the early success of the business was the publication of Kingsley's works and *Tom Brown's School-days*. When, in 1890, Frazer's *The Golden Bough* made its appearance, the firm of M. was rewarded not only in its association with Frazer but in the power his masterpiece had to draw to the firm's imprint a long list of works on folklore, comparative religion, anthropology, and kindred subjects. In 1893 the business was turned into a limited liability company. In 1901 a publishing centre for India, Burma, and Ceylon was started in Bombay. Among the readers for M. were John Morley and Charles Whibley. Sometimes the firm's readers blundered, as when Bernard Shaw's juvenile novels were appreciated and declined; while other episodes, as recorded in Charles Morgan's *The House of Macmillan, 1843-1913*, show the fate of Thomas Hardy's first books, or explain why W. B. Yeats was rejected, or why Robert Elsmere went to another publisher, and why Maurice Hewlett's *The Forster Lovers*, despite adverse reports, was published by the firm and scored a resounding success. See T. Hughes, *Memoirs of Daniel Macmillan, 1852, and C. L. Graves, The Life and Letters of Alexander Macmillan*, 1910.

McMillan, Margaret (1861-1931), Scottish educationist, b. in New York of Scottish parents. Her father d. in 1863, and her mother brought her and her elder sister Rachel (b. 1850) to Inverness, the home of her maternal grandparents. She was educated at Inverness High School and Academy. She trained herself to earn a living first as a governess and later as an actress. Her interest in the growing Labour movement, however, led her to abandon her previous intentions, and she accepted an invitation to join the Independent Labour party formed in Bradford in 1893. The following year she became a member of the Bradford School Board, and this was the beginning of her pioneer work in securing medical treatment in schools. In that year the first recorded medical inspection of schoolchildren was held in Bradford. In 1902 she left Bradford to work with her sister in London. Through her books and lectures she continued her campaign for the health of schoolchildren, and in 1910 she opened a clinic in Deptford for the treatment of

children. This was linked to a nursery school for infants and a camp school for boys. Children were able to sleep in the open air with benefit to their health. By 1914 the scheme developed into the successful Day and Night Nursery School. Her reputation grew. Grants were made to the school by the Board of Education and the L.C.C., of which she became a member in 1919. She was awarded the C.B.E. in 1917. The nursery school movement being well estab., she turned her attention to the training of teachers in the care of children. In 1923 the Nursery Schools Association was founded, of which



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she became first president. She collected students around her, and they used the nursery school as a centre for their training. In 1930 new buildings were opened, known as the Rachel M. Training School in memory of Rachel M., who d. in 1917. Pubs.: *Early Childhood* (1900); *Education through Imagination* (1903); *Labour and Childhood* (1906); *The Camp School* (1917); *The Nursery School* (1919); *The Life of Rachel McMillan* (1927). Appointed C.H., 1930. See Albert Mansbridge, *Margaret McMillan, Prophet and Pioneer*, 1932, and D'Arcy Cresswell, *Margaret McMillan: a Memoir*, 1949.

Macmonnies, Frederik (1863-1937), Amer. sculptor, b. in Brooklyn, New York. At the age of seventeen he was apprenticed to A. St. Gaudens; and in 1884 he went to Europe and studied under Falguere in Paris, opening a studio of his own within a couple of years. His statue of 'Diana' was honourably mentioned in the Salon of 1889; and his 'Bacchante' (Salon,

1894) was purchased for the Luxembourg. His best-known works besides the above include the statues of Nathan Hale in New York, and Sir Harry Vane in Boston; the doors of the congressional library in Washington; the Prospect Park triumphal arch in Brooklyn; the battle monument at W. Point; and Princeton battle monument ('Washington at Princeton'), 1918.

McNaughton's Case, celebrated case in Eng. criminal law which estab. the test of irresponsibility for a criminal offence on the ground of insanity. The case was decided in 1843, and lays down the doctrine that, to estab. a defence on the ground of insanity, it must be clearly proved that, at the time of the committing of the act, the party accused was labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know he was doing what was wrong. Thus, the question of knowledge of right or wrong, instead of being put generally and indefinitely, is put in reference to the particular act at the particular time of committing it (see further under CRIMINAL LAW). The defect in the rule is that it seems to imply that the mind may be partially diseased, whereas many pathologists hold that if the mind is diseased it is wholly diseased.

McNaughton, Hon. Andrew George Latta, Canadian soldier, engineer, and administrator, b. at Moosomin, Saskatchewan, Feb. 25, 1887; educated at Bishop's College School, Lennoxville, and McGill Univ., Montreal, where he took his B.Sc. degree in 1910 and M.Sc. in 1912. He entered the Canadian Army in 1910, and served throughout the First World War; D.S.O. 1917. He was wounded at the second battle of Ypres, 1915, and at Solissons, 1918. After the war he studied at the Royal Staff College, Camberley (1921), and at the Imperial Defence College (1928). In the intervening years he was engaged in the reorganization of the Canadian Army, and was deputy chief of Canadian general staff (1923-26), becoming Chief of Staff (1929-35) with rank of major-general. He attended the Imperial Conference in London, 1930, and represented Canada at Geneva in 1932. He was also concerned with the development of Imperial and Canadian Airways. On the outbreak of war in 1939 he was chosen to command the 1st Div., Canadian Overseas Force. He was promoted Lieutenant-general in 1940, and commanded the Canadian Corps, 1940-42, being then appointed commander-in-chief, a post which he held until his retirement in 1944 with the rank of general. In that year he was appointed minister of defence to deal with the crisis over the voluntary system for overseas service. He held office until the formation of a new gov. after the 1945 elections. He has latterly been permanent Canadian delegate to the United Nations Organisation. He has also been distinguished as an engineer and scientist. He was the joint inventor of the cathode ray direction finder in 1926, and in 1940 he was awarded

the Sir John Kennedy medal at the Engineering Institute of Canada. He has been closely concerned with the development of atomic energy. President, Canadian Atomic Energy Control Board, 1946-48. He holds honorary degree of LL.D. at McGill Univ., Queen's Univ., and univs. of Birmingham, Ottawa, and Saskatchewan. C.H., 1946; P.C. (Canada), since 1944.

MacNeice, Louis, Irish poet, b. in Belfast, Sept. 12, 1907; educated at Marlborough School and Merton College, Oxford. For some years he lectured in classics, first at Birmingham Univ., and later at Bedford College for Women, and in 1940 was in U.S.A. as lecturer in Eng. at Cornell Univ. Returning to England for war service, he joined the Brit. Broadcasting Corporation, and has been feature writer and producer since 1941. His first vol. of poems, *Blind Fireworks*, was pub. in 1929, and has been followed by others, including *Autumn Journal* (1939); *The Last Ditch* (1940); *Plant and Phantom* (1941); *Spring Board* (1944); and *Holes in the Sky* (1948). His ability in reflecting the spirit of his times in his own emotional experience has earned him an appreciative public. The Group Theatre produced his verse trans. of *Aeschylus' Agamemnon* in 1936, and his play, *Out of the Picture*, in 1937. His study of the poetry of W. B. Yeats was pub. in 1941.

MacNeill, Cyril (1888-1937), Eng. author, who wrote under the pseudonym of 'Sapper,' educated at Cheltenham and the Royal Military Academy, Woolwich, passing out into the Royal Engineers in 1907, and retiring in 1919 with the rank of Lieutenant-colonel. He wrote numerous novels and short stories of 'thriller' type which enjoyed wide popularity, their outstanding character being 'Bulldog Drummond.'

MacNeill, John Gordon Swift (1849-1926), Irish politician, b. in Dublin and educated at Trinity College, Dublin, and Christ Church, Oxford. Prof. of constitutional and criminal law at King's Inn, Dublin, 1882-88. He took silk in 1893, and in 1906 was commended by Campbell-Bannerman in the House of Commons for procuring the abolition of flogging in the navy. McN. also succeeded in obtaining recognition of the principle that a minister of the Crown must not be director of a public company. He represented S. Donegal as a Nationalist, 1887-1918. He pub. *The Irish Parliament, what it was and what it did* (1885); *Tilted Corruption* (1894); *The Constitutional and Parliamentary History of Ireland till the Union* (1917); *Phases of Irish History* (1919); and *Studies in the Constitution of the Irish Free State* (1925).

Macomb, co. seat of McDonough co., Illinois, U.S.A., 60 m. N.E. of Quincy, and is engaged chiefly in the manuf. of stoneware. The W. Illinois State Teachers' College is here. Pop. 8700.

Macon, cap. of the dept. of Saône-et-Loire, France, on the R. Saône, where the riv. is crossed by a bridge of twelve arches. The interesting features of the tn. are the ruins of a cathedral and the church of St.

Peter in Romanesque style. Its anct. name was Matisco, and it was the bp. of Lamartine. It trades chiefly in wine, and casks, vats, and watches are made. Pop. 21,000.

Macon, co. seat of Bibb co., Georgia, U.S.A., on the Ocmulgee R., 80 m. S.E. of Atlanta, and a great railway centre. It possesses a Rom. Catholic college, a Wesleyan college, and Mercer (Baptist) Univ. It also manufs. flour and iron goods, and is the centre of a peach- and cotton-growing dist. Pop. 57,800.

McPherson, Aimée Semple (1890-1944), Amer. evangelist, b. near Ingersoll, Ontario. She began her career as an evangelist at the early age of seventeen, and toured the U.S.A., Canada, England, and Australia, holding revivalist meetings which were widely attended. In 1914 she settled in Los Angeles and founded (1921) the Echo Park Evangelistic Association, of which she became president. This grew into the International Church of the Four Square Gospel for which a temple was built in Los Angeles. Pubs.: *The Bridal Trail* (1915); *Divine Healing Sermons* (1920); and *The Second Coming of Christ* (1920).

Macpherson, James (1736-96), Scottish man of letters, began to write poetry at an early age. In 1762-63 he pub. two poems, *Fingal and Temora*, which he stated were trans. from the Gaelic of Ossian. The works attracted much attention and had a considerable effect on European literature, but presently the critics cast doubts upon the source, and a prolonged controversy took place. M. seems not to have been seriously concerned at the charge of forgery, and made no particular effort to rebut it. M., in 1775, ed. *Original Papers containing the Secret History of Great Britain from the Restoration to the Accession of George I.* See Boswell's Johnson, (passim), and life and letters by T. B. Saunders, 1895; and J. S. Smart, *James Macpherson: an Episode in Literature*, 1905.

Macquarie: 1. Bay of Tasmania, on the W. coast; forms an important harbour. 2. Is. on the S. Pacific, belongs to New Zealand and is a centre for seal fishing. A meteorology station has been estab. here. Area 170 sq. m. 3. Riv. of New S. Wales formed by the junction of the Fish and Campbell streams, and after a course of 350 m. joining the Darling R.

Macrauchenia, extinct animal with horse-like skull, tapir-like nasal bones, llama-like neck, and teeth partly horse-like and partly rhinoceros-like; found in S. Amer. later Tertiary.

Macready, William Charles (1793-1873), Brit. actor, made his first appearance in the provs. in 1810, and six years later played in London, where his Richard III. made him popular. He held a high position in his profession until his retirement in 1851. A great, powerful, and intelligent actor, he was not an amiable man, nor happy, as may be gathered from his *Diary*, a new ed. of which appeared in 1912. See lives by Lady Pollock, 1885; W. Archer, 1890; and W. T. Price, 1895.

Macrinus, M. Opilius Severus, Emperor of Rome (A.D. 217-218), b. at Caesarea, Mauritania, A.D. 164, of humble parentage. At the instigation of his patron, Plautianus, he was admitted to the service of the Emperor Septimius Severus, and after receiving sev. appointments of trust, eventually became prefect of the praetorians under Caracalla, an office in which he acquitted himself prudently and honourably. On the death of Caracalla he was proclaimed emperor. He eventually met his death at Chalcedon, and was succeeded by Elagabalus.

Macrobius, Ambrosius Aurelius Theodosius, Rom. grammarian whose period is uncertain, but who probably lived about the beginning of the fifth century. Only a comparatively small number of his works are extant, amongst which are a commentary on Cicero's *Dream of Scipio*, and a collection of essays, *Saturnaliorum convivium libri septem*, the latter incomplete.

Macrocollon, see under MANUSCRIPTS.

Macrocosm, see MICROCOSM and MACROCOSM.

Macroductyles, sub-order or tribe of the order Gallatores, wading birds, characterised by the four elongated toes on each foot. M. include the gulls, waterhens, and coots. The name *Macroductylus* was formerly given to a genus of lamellicorn beetles, now merged in Scarabaeidae.

Macronissos, see MAKRONISI.

Maerom, tn. in Co. Cork, Eire, on the R. Sullane, 20 m. W. of Cork. Pop. 3500.

Macropodians, or **Macropodidae**, family of marsupials or pouched animals with large powerful hind feet, comprising all the kangaroos. The name is also given to sea spiders and spider crabs, a family of Oxyrhynchi.

Macroura, or **Macrura**, group of decapod crustaceans, characterised by long broad-swimming tails, and including the lobsters, crayfish, prawns, and shrimps.

Macrozamia, genus of tall evergreen perennials (order Cycadaceae) with long, leathery, graceful palm-like leaves and bearing scaly ovoid cones. They grow well but slowly in a greenhouse, needing liberal watering.

McTaggart, John McTaggart Ellis (1866-1925), Scottish philosopher; educated at Clifton College and Trinity College, Cambridge. He became a fellow of Trinity in 1891, and was lecturer at Cambridge Univ. from 1897 to 1923. In his philosophical teaching he was a follower of Hegel, on whom he pub. *Studies in the Hegelian Dialectic* in 1896 and *Studies in Hegelian Cosmology* in 1901. His own philosophy, which was a variation of Hegelianism, is expounded in his unfinished work, *The Nature of Existence*, the first vol. of which appeared in 1921. As a metaphysician he was a realist in his method of knowledge although ontologically he tended towards idealism. He also wrote a critique of religion, *Some Dogmas of Religion* (1910). See memoir by G. Lowes Dickinson, 1931.

Maetan, prov. of the Philippines, consists of a small coral is. off the E. coast of Cebu. Magellan was killed here in 1521.

MacWhirter, John (1839-1911), Scottish painter, b. at Inglis Green, near Edinburgh. He was a pupil at the art school of the Board of Manufacturers, Edinburgh. In 1879 he was elected an A.R.S. and in 1891 an R.A. The most characteristic of his works are his noble Highland landscapes, portraying the rugged grandeur and beauty of the moors. Perhaps his best-known picture is 'June in the Austrian Tyrol' in the Tate Gallery, London. Other examples of his work are 'Loch Katrine,' 'The Lord of the Glen,' 'The Silver Strand,' and 'The Track of the Hurricane,' etc.

Madagascar, Fr. colony lying off the S.E. coast of Africa, about 250 m. from the mainland, from which it is separated by the Mozambique Channel. It is an is. 980 m. long and its extreme width is 360 m., with an estimated area of 241,091 sq. m., excluding dependent is. of which the chief are the Comoro Is., added to it in 1914. It is the third largest is. in the world. The interior is traversed by a mt. range, rising in some places to over 10,000 ft., which lies parallel to the E. coast, making the descent to the sea very abrupt; on the W. and S.W. are wide grassy plains. Numerous rivers flow E. and W., all of little use for navigation. Extinct volcanoes and hot springs are found in various parts of the is., the highest peak being Ankarobia (over 9000 ft.) in the N.E. The coast is remarkably unindented, and the chief harbours are Diego-Suarez, Tamatave, Majunga, and Tulcar. There is some magnificent scenery in M. The falls of Fanarano on the road from Tamatave to the cap., and Lake Itasy in the interior, are famous. Travellers claim, not unjustly, that the 220-m. stretch between Tamatave and Antananarivo is not inferior in the variety and splendour of its scenery to any journey of similar length anywhere; magnificent waterfalls, densely forested slopes with rushing rivers, tumbling with cataracts, rolling grassy moors, savannah-like plains, and mts. of all sizes, with outcroppings of crystalline rock assuming the most fantastic shapes.

Vegetation is luxuriant, and the is. is ringed around the coast with dense forests which supply valuable timber such as ebony, bamboo, rosewood, etc., besides rubber palms, gums, and rubber trees. Many rare varieties of orchids and ferns are found, and a peculiar feature is the traveller's tree (*Ravenala madagascariensis*). Fruits abound, and include mangoes, tamarinds, bananas, lemons, bread-fruit, and ground-nuts, and coffee, cocoa, sugarcane, hemp, and vanilla are cultivated to a considerable extent. The climate is salubrious for about half the year in the central plateau where lies Antananarivo, the cap., but during the rainy season it is unhealthy for Europeans. The E. and N. coasts are very wet, the S. and W. of the is. very dry. The highest mean temp. (80°) occurs at Diego-Suarez, and the average rainfall is about 28 in., but it may exceed 40 in., while in the S. are waterless deserts. Hurricanes and thunderstorms are prevalent and severe. The

country is rich in minerals, gold, graphite, corundum, phosphates, mica, precious stones, silver, zinc, antimony, copper, iron, and lead being found; the first six are mined. In 1946 the mineral output was valued at about 96,500,000 francs, of which graphite accounted for 39,689,000 francs, and mica for 44,329,000 francs. The prin. agric. products are potatoes, rice, maize, coffee, haricot beans, sugar, tapioca, and spirits. Agriculture and cattle breeding are the chief occupations of the natives. Exports in 1946 amounted to 2,789,500,000 francs, the most valuable being vanilla and coffee; imports were valued at 1,262,000,000 francs.

as their religion, though retaining many of their old-time superstitious and customs. The Hovas differ considerably from the other tribes—the Sihanakas, Ibaras, Betallos, and the Sakalavas, but the origin of them all presents the same problem. Though discoveries of fossil bones, etc., have proved M. to have been once a part of Africa, it is equally certain that the Malagasy are of E. origin, the Hovas, the latest arrivals, being definitely Malay in type, the other tribes Polynesian. Their language,—for all tribes speak the same tongue,—manners, and customs are distinctly akin to those of the South Sea islanders. To M. Alfred



A HILL VILLAGE IN MADAGASCAR

Paul Popp

The fauna includes many curious animals, such as the aye-aye and lemur, but is devoid of the larger carnivora. There are over 240 species of birds, many of brilliant plumage, and also sev. varieties of chameleons. Fossils of extinct animals, birds, and reptiles have been found, including the *Apyornis*, *Mullerornis*, *hipopotami*, and a gigantic dinosaur.

Under Fr. influence excellent motor roads have been constructed, and there is railway communication between Antananarivo (pop. 163,000) and the port of Tamatave, from Antananarivo to Antsirabe to the S., and from Moramanga to the Antsihanaka prov. in the N. These lines have been extended and electrified. Filanzenas, a native type of palanquins, are used as a means of conveyance for short distances. The pop. numbers about 4,000,000 of whom 50,000 are Europeans. The native pop. is made up of many different tribes, the Hovas being the chief. They are of fine physique, strongly proportioned, and active in habit. They inhabit the Imerina plateau in centre of the is., and profess Protestant Christianity.

Granddier (1836-1921) most of our knowledge of M. is due. He explored it thoroughly, 1865-70, and his great treatise *Histoire physique, naturelle et politique de Madagascar* (1875-1917), remains the standard work on the is.

M. was known to Ptolemy under the name of Menuthios, and it is certain that there were Arab settlements over a thousand years ago, for traces of Arab occupation are evident to-day in the Malagasy language. Marco Polo mentioned it, but the first known European to land on its shores was Diaz, the Portuguese, who visited the is. in 1500. Later the Dutch and then the Fr. estab. small ports in different parts of the country, which was ultimately brought under Fr. control in 1890. Some ill-conceived attempts were made by Brit. expeditions to settle in the is. This was in the reign of Charles I., the active organizer of such attempts being Wm. Courton, whose association, backed by the earl of Arundel and the earl of Southampton and Endymion Porter, groom of the king's bed-chamber, sought a footing in the is.; but

their efforts were generally thwarted by the E. India Company, and of a party of more than a hundred colonists who went out in 1644 only nine survived to tell the tale of the horrors through which they had lived. M. has no political hist. until the time of Radama. Indeed, it has not even a name of its own, for 'Madagascar' seems to have been coined by Marco Polo, (through confusion with Arab tales of 'Mogadishu.' No single tribe gained any lasting ascendancy until the rise, at the end of the eighteenth century, in the prov., of Imerina, the homeland of the Ilova race, of Adrianampoinimerina and Radama. A reign of terror for a quarter of a century followed the reforms of Radama, who had stopped the export of slaves and made a treaty with Sir Robert Farquhar, governor-general of Mauritius, which helped the is.'s progress. Radama was succeeded by one of his wives, Princess Ranaivalona, who turned out all the Eng. missionaries, had two hundred of their converts put to death in barbarous manner, and generally undid all the good work done by Radama. Her son, Radama II., also a reactionary, was murdered in 1863, two years after his mother's death. The next king, Raimilalahivouy, wanted to prevent annexation by the Fr. at 1 with the aid of Brit. officers, armed and trained a body of native levies. But these efforts proved abortive, and with the Fr. bombardment of Antananarivo in 1895 the Fr. protectorate became perpetual. Queen Ranaivalona III. was deposed and exiled to Algeria, where she d. in 1917. She had reigned since 1883. The is. is administered by a governor-general assisted by a gov. council and a representative assembly. Though a Fr. colony, it is not represented in the Fr. Parliament, but a financial and economic delegation, composed of thirty Frenchmen and twenty-four natives, meets annually. Natives are employed in minor posts in both military and civil gov. Education is now compulsory between the ages of eight and fourteen. Since the Fr. occupation of 1896 the country has contracted a debt of 849.6 million francs, mainly for public works.

Part of the is. was seized by Brit. forces in May 1912 to forestall a possible landing by the Jap. Royal Marines, taken through mine-strewn waters, carried out a surprise assault, and in a short time had captured the port and tn. of Diego-Suarez. Another force, including the Scots Fusiliers, Welch Fusiliers, E. Lancashire Regiment, and S. Lancashire Regiment, landed simultaneously at Ambararata and overcoming stiffer resistance reached Antsirabe, which they took by storm. Carrier-borne aircraft played a successful part in the operations. Suspicion of the Vichy (q.v.) Gov.'s pro-Axis (see AXIS) intentions prompted the Brit. Gov. to extend its control over the is. and in Sept. a Brit. E. African force, under Gen. Platt, supported by S. African armoured cars, marched on the cap., which was entered after but little resistance on Sept. 23. The Vichy governor retired still further

inland rather than surrender. The Brit. forces, however, were received with popular acclamation in Antananarivo. After the war the Fr. authorities resumed control of the is. In March 1947 a Nationalist rising broke out against the Fr., which was provoked by a combination of political and economic factors. The leading political party, known as the Mouvement Démocratique de la Malgache and dominated by the class which ruled M. before the Fr. conquest, had accepted the principles of local autonomy provided by the Fr. Union (see under FRANCE, Constitution), but then changed its mind and determined to seize power for itself. The garrison maintained by the Fr. was a small one and with the initial advantage of surprise, the rebels succeeded in creating widespread disturbances accompanied by loss of life. Thousands of Malagasy were involved in the massacre of political opponents, and there was a particularly heavy attack on Moramanga railway junction, while the country 50 m. N. of that place had by June become deserted and desolate with burnt houses standing empty beside unharvested rice fields.

See A. and C. Granddier, *Histoire physique, naturelle et politique de Madagascar* (24 vols.), 1875-1930; *Collection des ouvrages anciens concernant Madagascar*, pub. under the direction of A. Granddier, C. Roux, C. Delhorbe, and others (9 vols., the first seven of which contain the works or citations from Fr., Portuguese, Brit., etc., writers or travellers, and the eighth and ninth Flacourt's hist. of the is. and the narrative of François Martin (1663-68)), 1920; A. Dandouau, *Géographie de Madagascar*, 1922; J. Sibree, *Fifty Years in Madagascar*, 1924; H. Paulin, *Madagascar*, 1925; H. Rusillon, *Un Petit Continent, Madagascar*, 1933; Sir J. Fraser (ed. by R. A. Downie), *Native Races of Africa and Madagascar*, 1938; Olive Chapman, *Across Madagascar*, 1943; and *Madagascar Encyclopedia*, 2 vols., 1947.

Madagascar Cat. see under MAMMALS.
Madariaga, Salvador de, Sp. diplomatist and author, b. at Coruña, 1886, son of Don José de M., colonel Sp. Army. He was educated at the Collège Chaptal, Paris, Ecole Polytechnique, Paris, and Ecole Supérieure des Mines, Paris, and speaks and writes Sp., Eng., and Fr. with equal facility. For a time he was connected with the permanent bureaux of the League of Nations, and later was prof. in Sp. studies at Oxford. When the Sp. republic was proclaimed, M. was sent as Sp. minister to the U.S.A. He was ambas. to France from 1932 to 1934, chief Sp. delegate to the League of Nations, 1931-36, and minister of education in 1934. His works include *The Genius of Spain* (1923), on modern Sp. writers; *La Girafa Sagrada* (1925), a fantastic story; *Shelley and Calderón and other Essays on Spanish and English Poetry* (1920); *Spanish Folk-songs* (1921); *Don Quixote* (1934); *The World's Destiny* (1938); *Christopher Columbus* (1939); *Hernán Cortés* (1941); *Spain* (1942); *The Heart of Jade* (1944), a novel; *The Rise of the Spanish-American*

Empire (1946); and *The Fall of the Spanish-American Empire* (1947).

Maddaloni, tn. of Italy in the prov. of Caserta, 15 m. N.N.E. of Naples; it is supposed to be built on the site of the ant. Suessula. There is a splendid aqueduct near by, which was built by Charles III. to convey water to the cascades in the gardens at Caserta. Pop. 26,000.

Madden, Sir Charles Edward (1862-1935), Engr. admiral. He took a prominent part in naval design under Lord Fisher when the *Dreadnought* was laid down. During the period 1912-22 he rose from rear-admiral in a battle squadron to the position of commander-in-chief of the Atlantic fleet. He accompanied Adm. Jellicoe as chief of staff during the First World War, and was present at the battle of Jutland. In 1927 he returned to active employment as successor to Adm. Beatty in the post of First Sea Lord, retiring in 1930. K.C.M.G., 1919; baronet, 1919; O.M., 1931.

Madden, Sir Frederic (1810-73), Brit. archaeologist. b. at Portsmouth, devoted himself to the study of Norman Fr. and A.-S., and collated the MSS. of Caedmon for the univ. of Oxford, 1825. He was keeper of the MSS. at the Brit. Museum, 1837-66. He made many important contributions to paleographic literature, and ed. (*inter alia*) *Havelok the Dane* (1828); *Laysamon's Brut* (1847), and, in conjunction with Josiah Forshall, *Wycliffe's Bible* (1850).



MADDER

Madder, name given to sev. species of genus *Rubia*. Dyers' M. (*R. tinctorum*) is a trailing or climbing ann. and its root from early times has been extensively used for the production of a wide range of dyes, notably Turkey-red, all of which are very stable. Synthetic dyes have now almost entirely superseded it. See RUBIA.

Mādha, only important ls. of an archipelago of volcanic origin, situated some

400 m. from the N.W. coast of Africa. It is 520 m. W. of Lisbon and administratively (like the Azores), a part of Portugal. M. or the Ms., consist of M., Porto Santo, and three uninhabited is. (*desertas*). M. is one mass of basalt, rising with a steep ascent from S. and N. towards the interior, the highest point being Rod Peak (6165 ft.). The declivities of the mt. masses are furrowed by deep and generally narrow valleys and depressions, traversed by streams of clear water. The coast-line is bold and rocky, with good natural harbours. The climate is remarkably mild and equable, and for this reason M. is much resorted to by consumptive invalids, especially from England. The soil is fertile, and there are vineyards and orchards, producing choice wines and fruits, but the vineyards, once very extensive, have at times suffered greatly from the ravages of the oidium, and in late years sugar plantations have to a considerable extent replaced them. Cochineal is also an important product. The commerce with England is considerable, the prin. export being Madeira wine. M. was discovered about 1420 by Zarco and soon afterwards settled by the Portuguese, to whom it still belongs. It was in Brit. occupation from 1807 to 1814. Funchal (pop. 48,400) is in regular communication with Lisbon and Liverpool. Other tns. are Ponta do Sol (8000), and Machico (11,000). The inhab. of mixed Portuguese, Moorish, and Negro blood, are engaged mainly in agriculture and fishing. A serious rebellion broke out in April-May 1931, but after a demonstration by warships, the rebels speedily surrendered. Total area 315 sq. m. (Madeira, 270 sq. m.). Pop. 249,700. See A. S. Brown, *Madeira, Canary Islands, and Azores* (13th ed.) 1927, and C. H. Miles, *A Glimpse of Madeira*, 1919.

Madeira River (Rio Madeira), riv. of Brazil, and the main trib. of the Amazon. Formed by a union of the Mamoré and the Beni, it flows through Amazonas to join the Amazon, after some 900 m. below Manaus. In 1914 it was explored by the Roosevelt-Rondon expedition, its chief trib. being renamed as Rio Roosevelt. It is navigable for a distance of 715 m. by ocean steamers.

Madeira Wine is manufactured in the Madeira Is., from a mixture of black and white grapes; when vinted separately these grapes produce Tinta and Verdelho wines. High-class wines known as Bual, Sercial, and Malmsay are also manufactured in Madeira. The vines were brought from Cyprus or Crete in the fifteenth century; in 1852 they were totally destroyed by the oidium disease, but new shoots were afterwards replanted.

Madeleine, La, tn. in the dept. of Nord, France, forms a suburb of Lille. It has chemical and textile manufs. Pop. 21,800.

Madeley, par. of Shropshire, England, on the Severn, 14 m. E.S.E. of Shrewsbury. It has coal- and iron-mines, and iron foundries. Pop. 8000.

Mādhava Āchārya (Hindi, spiritual teacher), Hindu scholar and philosopher,

lived in the fourteenth century under King Bukka, to whom he acted as chief minister and spiritual adviser. He became abbot of the monastery of Sringeri.

Madhya-Bharat, see INDIA.

Madison, James (1751-1836) fourth president of the U.S.A. at Port Conway, Virginia, graduated at Princeton (1772), and afterwards studied law. He was appointed a member of the Virginia Convention (1776) and of the Continental Congress (1780) and thenceforth devoted himself to politics. In 1781 he was elected to the Virginia Legislature and became a zealous advocate of religious freedom. M. was also a member of the

remained until his death. See G. Hunt, *The Life of James Madison*, 1903, and (ed.) *The Writings of J. Madison*, 1900-10 and H. Adams, *History of the U.S.A. during the Administration of James Madison*, 1930.

Madison 1 Cap of Wisconsin, U.S.A., and co seat of Dane co., stands on an isthmus between lakes Mendota and Monona 82 m W of Milwaukee, in a valley. It contains the state capitol, univ. and other important buildings and has manufactures of machinery, boots and shoes, farming implements etc. There are also limestone quarries and railway shops. The state fish hatchery and forest pro-



MADIRA THE BOAT HARBOUR AT FUN HAL

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Constitutional Convention at Philadelphia in 1787, which drew up the U.S. Constitution. His work bringing him the title of 'Father of the Constitution'. It was he who drew up the plan whereby the Gov. was to be composed of three div. — legislative, executive and judicial. He collaborated with Hamilton in *The Federalist* (1802). He was elected to the Lower House in the first National Congress of 1789. He became a leader of the Republican party, and held the post of secretary of state during Jefferson's presidency. Mainly through the influence of Jefferson his lifelong friend he was elected president in 1809 and his period of office was a stormy one, its chief event being the war with England (1812-14). He was elected to a second term as president in 1812. In 1814, when Brit. troops captured Washington and burned the White House, M.'s wife the famous and charming Dolley M. saved Stuart's celebrated painting of George Washington and also the original draft of the Declaration of Independence. In 1817 he retired to his seat at Montpelier, Virginia, where he

ducts laboratory are at M. Pop. 67,400. 2 Co seat of Jefferson co., Indiana, U.S.A. standing on the Ohio R., 46 m S.S. of Indianapolis. It has flour mills, pork packing factories and manufactures of furniture, engines and boilers. It is the shipping centre for an agric. region. Pop. 6,900. 3 Bor. in Morris co. New Jersey stands on the Lackawanna R. 26 m W of New York, the seat of the Drew Theological Seminary, and famous for its rose culture. Pop. 7,900.

Madison River, one of the headstreams of the Missouri, rises in the Rocky Mts., Montana, and has a course of 230 m.

Madisonville, co seat of Hopkins co., Kentucky, U.S.A., has coal mines, tobacco factories, lumber mills, etc. Farming is carried on in the dist. Pop. 8,200.

Madness, see INSANITY, LUNACY.

Madoc, or Mad. 2, second son of Owen Gwynedd, Prince of Wales, lived in the twelfth century. According to a Welsh legend, he is said to have discovered America about 1170 at which time he

was forced to fly from Wales on account of a rebellion against his dynasty, which proved successful. He is believed to have sailed on a second voyage of discovery, after which he was heard of no more. His story forms the subject of a poem by R. Southey, entitled *Madoc*, 1805.

MADONNA (It. for 'Our Lady'), the usual title in Lat. countries for Mary, the mother of Jesus, and widely used for pictures and statues of her, particularly when represented with her Son. There is no authentic likeness. The earliest representation is that in the catacombs of S. Priscilla (early second century). The Byzantine pictures attributed formerly to S. Luke are not earlier than the sixth century. See Anna Jameson, *Legends of the Madonna*, 1872, 1902. See also **MARIOLATRY**, **MARY**, **THE VIRGIN**.

MADRAS: 1. Prov. of India, occupying most of the S. peninsula. Northward its boundaries, passing from W. to E., are Bombay, Hyderabad, the Central Provs., and Orissa. The coasts are flanked by the W. and E. Ghats, which from the interior seem to be little more than hills, because between them the great central plateau reaches an elevation of from 1000 to 3000 ft. The highest peak is Anaimudi (8850 ft.) in Travancore. The Nilgiri Hills are an offshoot of the W. Ghats. Between Nellore and M. on the E. coast is the lake of Pulicat (37 m. long), whilst the narrow coastal strip on the W. has its shores indented by sev. lagoons, the largest of which is Cochin (120 m.). Along the Malabar or W. coast there is an ann. rainfall of 100-250 in., but the highlands intercept the rain clouds, so that on their landward side the precipitation is as low as 20 in. On the E. coast, the heaviest fall is 50-80 in., and it is below 50 in. in Madura and Negapatam, etc. Famines are comparatively frequent but are more severe in the N. than in the S. interior, where rains pass over the Palghat Gap. The famine relief system has attained a high degree of proficiency. The three chief rivs., the Godavari, Kistna, and Cauvery, all rise in the W. Ghats, and after a S.E. course empty into the bay of Bengal. All are sacred rivs. to the Hindus, and all are dammed in their lower courses in the interests of irrigation. M. is notable for the success of its irrigation schemes, among which must be mentioned the Periyar R. scheme. A dam and tunnel through the Travancore Hills leads the R. Periyar on to the plains of Madura and conveys the rainfall across the watershed. M. is served by the S. Indian and by the M. and S. Malabar railways connecting it with Bengal on the N. and Bombay on the W. The prov. has an area of 142,277 sq. m., of which 15,724 sq. m. are forests, teak, ebony, and rosewood being the trees of highest commercial value. Agriculture is the most important industry. Rice is grown in great quantities, chiefly on the wet W. coast; in the interior, where rainfall is scanty and irrigation not practised, cotton flourishes. Elsewhere oil-seeds, millet, sugar-cane, tobacco, tea, coffee, and indigo are produced, and there is a

valuable yield of quinine. The manufacturing industries are those concerned with cotton (there were sixty-seven mills in 1945-46), rice, and tobacco, fish and coffee curing, and oil and indigo pressing. Salt, quinine, and manganese ore are produced. Included in the M. States Agency are Cochin (1,422,800), Pudukkottai (438,300), and Travancore (6,070,000). Pondicherry, Karikal, and Yanaon on the E. and Mahé on the W. coast belong to France. M., the cap., Tuticorin, Godavari, Tinnevely, and



E.N.I.

MADRAS: AN INSHORE FISHERMAN
The craft is a catamaran, made of solid logs lashed together.

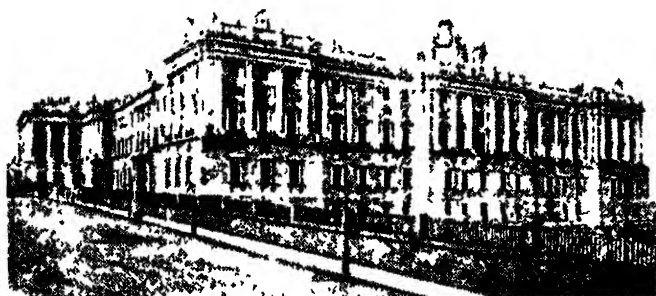
Negapatam are the chief ports, and other towns of importance are Trichinopoly (159,500), Tanjore, Calicut (126,300), Madura, and Salem. Ootacamund, in the Nilgiri Hills, is the summer cap. Some of the most beautiful examples of Indian architecture are to be found in M., notably in the temples of Madura and Trichinopoly. There are three univs., the M., the Andhra, and the Annamalai. The Andhra was founded in 1926; the Annamalai Univ., founded in 1926, is the first attempt in S. India at organising a unitary residential type of univ. The natives speak the Dravidian dialects, Tamil, Telugu, etc. Nine-tenths of the pop. (49,341,810) are Hindus, the remnant being Moslems and Christians. M. was not only the oldest but the most important of the three original presidencies before

Clive's conquest of Bengal, though it was small in area prior to the annexation of the Carnatic in 1801. The first trading establishment made by the Brit. in the Madras Prov. was at Poddapall (now Nizampatam) in 1611 and the next was at Masulipatam. In 1640 the Eng. were permitted to make a settlement and M. (the tn.), or Fort George as it was then called, was founded by Eng. factors in the same year. By 1801 most of the country from the N. Circars to Cape Comorin was under Brit. rule. The M. Presidency was constituted an autonomous prov. in 1937 under a governor and council of ministers. Administration under the machinery of the Government of India Act, 1935 proved impossible and in 1939 the governor assumed discretionary powers and later had the assistance of four official advisers.

siege ended in failure (1758). The old fort is still in use, not only as a fortress, but to house many of the gov. offices. Pop. 777,500.

Madrazo y Kunt, Don Federico de (1815-1894), Sp. historical portrait painter, son of the painter José de M. He became court painter at Madrid and prof. at the Madrid Academy. Among his pictures are 'The Women at the Sepulchre,' 'Godefroi de Bouillon proclaimed King of Jerusalem' (1837); and 'Maria Christina as a Nun' (1843).

Madre de Dios: 1. Riv. in S. America, rises in Peru, flows through Bolivia, and joins the Beni near its junction with the Mamore. The total length is about 850 m., most of which is navigable. 2. Chillon archipelago in lat. 50°-51° S. It is separated from the mainland and from the is-



THE ROYAL PALACE, MADRID

2. Cap. of M. Prov., and the third largest seaport in the country. It stretches some 9 m. along the coast, and about half that distance inland. Though structurally the city does not present an imposing whole, the Gov. House, Senate House, high court, cathedrals, Scottish Kirk, G.P.O., and Chattrai Palace, now the revenue office, are all buildings of conspicuous architecture. Besides M. (formerly Presidency) College, the headquarters of the univ., there are six missionary and various law, medical, and engineering colleges. Both the S. Indian railway and the M. and S. Mahrastra lines have their termini here. There is no natural harbour, but one has been constructed at great expense to accommodate large vessels. Nearly half of the foreign trade of the prov. passes out through the port of M., but its volume is only one-ninth that of Calcutta. In George Town, the business quarter, there are iron foundries, tanneries, cigar manufactories, and cotton-mills, etc. It was taken by the Fr. under La Bourdonnais in 1746, but given back two years later by the treaty of Aix-la-Chapelle. During the Seven Years war it was again blockaded by the Fr., this time under Lally, but the

of Chatham and Hanover by Conception Strait. 3. Dept. of Peru, in the S.W. of the state, bordered on the W. by Bolivia, on the N. by Brazil, on the E. by the prov. of Cuzco, and on the S. by Puna prov. The M. de D. R. flows through the dept., which lies at the S. extremity of the forest region called the Montaña. Area, 58,827 sq. m. Pop. 1,900 (0.08 persq. m.); cap. Maldonado.

Madrid: 1. Prov. of Spain, occupies the E. and S. slopes of the Guadarrama Mts., stretching towards Toledo. The Tagus forms the S. boundary for some distance. The soil is not particularly fertile, the rainfall is deficient, and the rivers are used for irrigation. The forests in the N.E. part of the prov. provide good timber; in the S.E. dist. fruit and vegetables are grown. The Sierra de Guadarrama contains quarries of granite and gypsum. Most of the great railways of the country converge in this prov. Area 3039 sq. m. Pop. 1,721,717 (of whom 1,187,142 live in the city of M.). 2. Cap. of Spain and of M. prov., built on an elevated plateau margin into the tableland of New Castile. The climate is healthy, but oppressively hot in the summer and bitterly cold in the winter. The central

part of the city is almost a square, formerly surrounded by a wall with five gates and eleven doorways of which three only still exist. The Puerta del Sol forms the centre of M., the largest of all the plazas, with ten streets leading from it. There are 12 m. of subways in the city and an underground railway modelled on that of Paris. A great deal of the city is very fine, with good houses and broad streets. M. is the largest city in Spain, the meeting-place of Parliament, the see of an archbishop, the seat of a univ., and was the chief residence of the king. Among the chief buildings are the royal palace, occupying the site of the anc. Moorish citadel, and built in the Tuscan style of white granite; to the S. of the palace lies the armoury, with one of the finest collections in existence; the picture gallery, adjoining the Salón del Prado, contains nearly 2000 pictures, including works by Titian, Raphael, Velazquez, Van Dyck, etc.; the Biblioteca Nacional, founded 1866, includes the national library, with over 600,000 vols. and 30,000 MSS., also the archæological museum and the fine arts academy of San Fernando. The churches are not of great architectural merit. In the Paseo de Recoletos, with its well-designed public garden running the whole length of it, are embassies, museums, and private palaces, as also elsewhere in this pleasant quarter of the city. The post office is a grandiose building with graceful towers, and the banks of M. are for the most part built in a very good style of their own, albeit somewhat ornate. The loftiest building in M. is the telephone exchange and next is the fairly recently built Circolo de Bellas Artes or Fine Arts Club, which has a swimming bath and a theatre with over a thousand seats. The industries of the city have developed since the first decade of the present century. There are a great variety of manufs., including tobacco, furniture, leather goods, glass, and chemicals.

The hist. of the city begins with the Moors, who called it Majrit, during the first half of the tenth century. In 1083 Alfonso VI. captured it from the Moors. Charles V. resided there frequently, and Philip II. made the city his cap. in 1560 and held his court there. King Alfonso XIII. fled from M. in 1931 when the Sp. Republic was estab. The city suffered severely in the civil war of 1936-39. It became the centre of gravity in Oct. 1936, some three months after the outbreak, Navalcarnero, the key tn. on the road to the cap., having fallen to Franco on Oct. 2. On Nov. 4 Franco's forces captured the Getafe airport, but found the aerodrome completely destroyed. The insurgent forces then penetrated into the suburbs and the univ. quarter, the inhab. meeting them with boiling oil and water. After this the city held out for a long time, Franco holding off to await Ger. and It. aid. On Nov. 14 Franco bombed the city from the air, inflicting great suffering on the civilian pop. It was not until after the fall of Barcelona, Valencia, and other cities

in the Republican zone early in 1939 that M. surrendered (March 28), having stood a siege of two and a half years' duration under the able conduct of Gen. Mola. See J. Ortega Rubio, *History of Madrid*, 1921; C. E. Kany, *Life in Madrid, 1750-1800*, 1932; and G. Cox, *Influence of Madrid*, 1937.

Madrigal, short poem generally on the subject of love. Pietro Casella, a contemporary of Dante, is the first composer who is known to have written Ms. under that name. After the fourteenth century the word seems to have dropped out of musical use and to have denoted pastoral or idyllic lyrical poems which had formed the themes of musical settings. The word reappeared in its musical sense in the sixteenth century when Flem. composers who had settled in Italy as church musicians and It. composers wrote unaccompanied choral compositions under that style (see on this Percy A. Scholes, *The Oxford Companion to Music*). The M. proper consists of three verses or strophes, generally bound together by rhymes; but the name is sometimes applied to love-poems of any form. Among the Its. the best writers of Ms. are Petrarch and Tasso and, in modern times, Carducci and D'Annunzio; among the Fr. Montreuil (the thirteenth-century trouvère), Marot (according to Warton 'the reviver of the madrigal'), Luinez, and Mouret; among the Ger. Ziegler, Voss, Goethe, and A. W. Schlegel; and among the Eng. the poets of the Elizabethan and Caroline ages, such as Lodge, Wither, Carew, and Sackling. The musical M. is a setting of a poem of the kind described in contrapuntal style for two to six voices (sometimes for one voice with instruments contributing the polyphony). Blom dates it from the fourteenth century but the M. as we know it is a sixteenth-seventeenth century form which 'should not be confused with its predecessor either poetically or musically' (Thompson). Originating with the Flemings about the middle of the sixteenth century, it went out of fashion about the beginning of the seventeenth century, but the later gloe is a similar composition. It. composers of Ms. include A. Gabrieli, Ruffo, Palestrina, Gesualdo, and Monteverdi. The Eng. madrigalists are especially famous, and include Byrd, Bennet, Orlando Gibbons, Morley, Weelkes, Bateson, Tomkins, and Wilbye—the last named in Dr. Fellowes' opinion 'perhaps the greatest of all madrigal writers, either English, or Italian, or Flemish.' See E. H. Fellowes, *The English Madrigal Composers*, 1921, 1948.

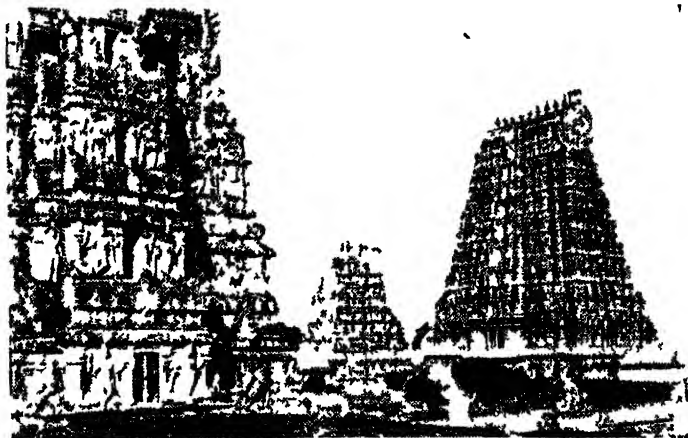
Madroño Tree, or *Arbutus Menziesii*, Californian evergreen (order Ericaceae). The smooth trunk and branches are brilliant maroon, the large leaves are dark green, and the flowers, which are borne in masses, are wax-white; they are followed by loose clusters of scarlet berries. The tree is slow-growing, but attains a height of about 100 ft. The wood yields a fine charcoal.

Madura: 1. Dist. of India in Madras Prov., bounded on the E. by the gulf of

Manaar The chief city, M situated on the S bank of the Vaigai R. was for more than 2000 years the religious cap of the Carnatic and its rulers are spoken of by the anc. Gk. geographers. The walls of its anct. fortifications remain and a large palace, a great temple with pyramidal towers and numerous Hindu edifices attest the former magnificence of the place. Pop. of city including cantonment, 239 100. See B. Havell, *Indian Architecture* 1913. 2. Is. and autonomous state of the Netherlands E. India, separated from Java by the Surabaya Strait. It is mountainous and not particularly fertile but possesses salt mines and large tracts of timber. The only navigable riv.

Maebashi, cap. of the prov. of Gumma, in central Hondu Japan, 70 m. N.W. of Tokyo. It is noted for its silk trade. Pop. 87 200.

Mæcenas, C. Cilnius, Rom. (questrian), descended both on his father's and mother's side from the Lucuniones of Etruria. His paternal ancestors were the (Ilus) a powerful family at Arretium, and his maternal ancestors the Maccinates, at Arretium. M. was one of the chief friends and ministers of Augustus, and enjoyed for many years the confidence of the latter. But towards the latter years of his life a coolness sprang up between them, and M. retired entirely from public life. He d. 8 B.C. The name of M. however



COURT OF MINAKSHI TEMPLE, MADURAI

(Continued from page 660)

is the Marignan and the main port are Bangkok, Samutep and Paimkuan. Pop. including that of the numerous small is. adjacent 2 000 000.

Madvig, Johan Nicolai (1804-81) Dan. philosopher, statesman and classical scholar, chiefly known for his eds. of Cicero, Livy, Tacitus, and for his Gk. and Lat. grammar books for schools. He was appointed prof. of the Lat. language and literature at Copenhagen (1827). As a politician M. was minister of education (1848), director of public instruction (1852), and later president of the Dan. Parliament. He was also a distinguished paleogeographer.

Mæander (Gk. Μαῖαδης) Riv. of Asia Minor, proverbial for its winding course, rising in the S. of Thracia (close to the source of the Mæisus (97)), flowing between Lydia and Caria, of which it forms the boundary, debouching into the Icarian Sea between Myus and Priene. As a god M. is represented as the father of the nymph Cyane, mother of Caunus, whence the latter is called by Ovid *Mæandrus furens*.

rests mainly on his patronage of literature, especially of Virgil and Horace. Virgil was indebted to him for the recovery of his farm which had been appropriated by the soldiery in the div. of lands in 41 B.C. and it was at the request of M. that he undertook the *Cæciliæ*. To Horace M. was a still greater benefactor. He presented him with a farm in the Sabine country. His name became a synonym for a patron of the arts.

Mæcianus, Lucius Volusius, Rom. jurist, who lived in the time of Antoninus Pius and Marcus Aurelius. He was one of the legal advisers of Antoninus and one of the instructors of Aurelius in law. The writings of M. which are mentioned in the Florentine Index are sixteen books on *Fideicommissa* (trusts) and fourteen on *Judicia Publica*. There are forty-four excerpts from M. in the Digest. M. is cited by Papinianus, Ulpianus, and Paulus.

Mædisians, **MAIDSTONE**.

Maelstrom (A. S. *mælstrom*), a great whirlpool in the sea, usually associated with the celebrated whirlpool arising occasionally in a strong current off the

is. of Moskoe on the W. coast of Norway. It is very dangerous in winter, especially when the N.W. wind interferes with the set of the tide. Formerly, and erroneously, it was supposed to be dangerous enough to engulf ships at any time.

Mænades, see BACCHAE.

Mænura, see LYRE-BIRDS.

Maerlant, Jacob van (b. c. 1235), Flem. poet of the thirteenth century, probably b. on the is. of Voorne. The founder of the didactic school of poetry in the Netherlands, he has been called the 'father of Flemish poetry.' His prin. work is the *Mirror of History*, left uncompleted; and he also wrote *The Secret of Secrets* (1824); *Flowers of Nature* (1857); and a poem, *The Lands over the Sea* (1291), a summons to the crusades.

Maes, or Maas, Nicolaes (1632-93), Dutch genre and portrait painter, b. at Dordrecht; a pupil of Rembrandt. A rare painter, but little is known of his life. About 1665 he left the studio of Rembrandt and went to Antwerp, where he lived until 1678 and later returned to Antwerp where he d. His early pictures are extremely rare, but the National Gallery (London) has some of the best: 'The Idle Servant,' 'The Dutch Housewife,' 'The Cradle,' and 'Portrait of a Girl.' If popularity is a guide to merit the picture curiously entitled 'The Never-ending Prayer' in the Ryks or State Museum of Amsterdam, ranks very high. It is a masterpiece of small and large painting in unity and has a sombre richness which distinguishes it from such a picture as 'Boys Bathing,' in the Louvre. Also in the Ryks, Amsterdam, is the 'Old Woman at the Spinning Wheel,' also a popular favourite. Other works in various galleries are 'Old Woman Saving Grace' (Louvre), 'Interior' (Wallace Collection), and some portraits in the Old Pinakothek, Munich. The change in style of his later pictures is so marked as to raise a doubt whether they were his work or perhaps that of another pupil of Rembrandt. Other paintings, mostly in Dutch collections, are 'The Card Players,' 'The Listener,' 'Old Woman Peeling an Apple,' 'The Inquisitive Servant,' and 'Hagar's Farewell'—all establishing him as one of the best of the Dutch genre artists.

Maeseyck, see MAASEYCK.

Maesteg, tn. in Glamorgan-shire, Wales, 8 in. S.E. of Neath. Chiefly engaged in coal-mining, and has iron-works. Pop. (1931) 25,500.

Maestricht, see MAANTRICHT.

Maestro, wind blowing from the N.W. around the Adriatic Sea, usually in the summer, foretelling fine weather.

Maeterlinck, Maurice Polydore, Marie Bernard (1862-1949), Belgian dramatist, poet, and essayist, b. in Ghent, where he was educated at the univ. Becoming a barrister, he went to Paris at the age of twenty-five, and came into touch with the Fr. and Belgian symbolists—Villiers de l'Isle Adam, Le Roy, Verhaeren, and Rodenbach—whose ideals won his sympathy and support. His wealth permitted him to abandon law and take up literature

as his lifework. The vol. of verse entitled *Serres chaudes* appeared in 1889; the play *La Princesse Maleine*, later the same year. His works include the following plays: *L'Intruse*, *Les Aveugles* (1890); *Les Sept Princesses* (1891); *Pelléas et Mélisande* (1892); the famous 'marionette' plays *Atlantide* et *Palomides*, *Intérieur*, and *La Mort de Tintagiles* (1894); *Aglaraine et Sélysette* (1896); *Monna Vanna* (1902); *Joyzelle* (1903); and *L'Oiseau bleu* (1909). Other plays are a trans. from Itzysbroeck (1891); a study of Novalis and *Annabella*, a trans. of Ford's 'Tis Pity She's a Whore' (1895); *Le Trésor des humbles* (1896); *La Sagesse et la destinée* (1898); *La Vie des abeilles* (1901); *Le Temple enseveli* (1902); *La Mort* (1913); *Mary Magdalaine* (1913); and *Le Bourgmestre de Stilemonde* (1918), produced in an Eng. trans. by Sir J. Martin-Harvey in 1920. His work is mystical to a degree. Mirbeau's fantastical critique of M. as a 'Belgian Shakespeare' no longer calls for serious comment, but few would disagree with Mauchef in calling him one of the century's most original, most beautiful, and strongest types of genius. His essays, of which *La Sagesse et la Destinée* (1902) are of the highest quality, show the influence chiefly of Emerson and Novalis, but his plays suggest a fatalistic turn of mind. Studies in the psychology of terror, of despair, and other emotional phenomena, they are devoid of action and of dramatic commonplace; they are not pre-eminently suited for the stage, although they have often met with a good reception. An Eng. trans. of *L'Oiseau bleu*, by A. Teixeira de Mattos *The Blue Bird*—had great success in the theatre. Debussy's setting of *Pelléas* is one of the greatest of modern operas. A certain sentimentality mars moments in his *L'Oiseau bleu* as in many of his writings. But it is a lively theatrical fairy story which is a masterpiece of its kind. His later plays and essays revealed a freer acceptance of modern life, but little real deepening of vision or more capacity to create human character. He has been called a mystic man of the world and this, perhaps, defines aptly his qualities and defects. His later works include *The Wreck of the Storm* (essays concerning the First World War, 1916); *Betrothal* (1918); *Les Semeurs dans la montagne* (1919); *The Life of the White Ant* (1926); *The Life of Space* (1927); *The Magic of the Stars* (1930); *The Life of the Ant* (1931); *L'Araignée d'or* (1932); *La Grande Loi* (1933); *Arant le grand silence* (1931); *Pigeons and Spiders* (1935); *The Hour-Glass* (1936); *L'Ombre des ailes* (1936); *Devant Dieu* (1937); and *The Abbot of Setubal* (play, 1940). See A. Symons, *The Symbolist Movement in Literature*, 1899; A. van Bever, *Maeterlinck*, 1904; E. Thomas, *Maurice Maeterlinck*, 1911; H. Rose, *On Maeterlinck*, 1911; J. Bothall, *Life and Works*, 1913; and Gertrude Leblanc, *Souvenirs*, 1931; also monographs by C. Harry, 1900, 1932; and A. Bailly, 1931.

Mafeking, tn. in the N. of Cape Prov., S. Africa, and the centre of the protectorate of Brit. Bechuanaland. Pop. (white)

3000; (others) 2800; European (2300). It is situated in a gold-mining dist. The tn. was laid out in 1885 by Sir Charles Warren. M. is particularly remembered in connection with the 280 days' siege it underwent during the Boer war of 1899. It was gallantly defended by Col. (later Lord) Baden-Powell, to whose resource and courage was due the fact that it was able to hold out against the invaders for seven months, until it was relieved by Col. (later F.-M. Lord) Plumer with Rhodesian forces. The investment was followed with the closest interest in England, and on the receipt of the news of the relief London gave itself up to rejoicing of unaccustomed spontaneity—whence the word 'matlicking.' From M. Jameson in 1895 set out on his unfortunate exploit on behalf of the Reformers. M. owes much of its present development to its importance as a railway centre, and to its railway workshops. In these workshops during the siege were manufactured a look-out tower, ammunition, and a searchlight, and even a gun—improvised out of drain-pipes (called 'The Wolf' and now to be seen at the Royal United Service Institution). See J. A. Hamilton, *The Siege of Mafeking*, 1900, and F. D. Baillie, *Mafeking, a Diary of the Siege*, 1900.

Maffei, Francesco Scipione, Marchese di (1675-1755), It. dramatist and archaeologist, b. at Verona. He first adopted the military profession, but abandoned this for literature. His tragedy *Merope*, produced in 1713, was highly esteemed. In 1731-32 appeared his prin. work, *Verona illustrata* (2 vols.), treating of the origin, hist., and literature of Verona. He also wrote *Introduction to the Science of Mathematics*. His complete works were pub. in 1790.

Mafia, or Mafia, secret society of Sicily. Historically, the M. is said to be a consequence of the long period of bad foreign wars, before the unity of Italy through Garibaldi. For long the M. dominated Sicilian social life, embracing all classes and always holding itself out as the supporters of the particular gov. in power. It issued decrees, fixed land rents, and practised extortion on a wide scale. Resistance to its 'decrees' was met with murders and vendettas. Finally it was crushed under the Fascist regime. See C. Mori, *The Last Struggle*, 1922-29 (trans. 1933).

Malra, tn. in Estremadura, Portugal, 15 m. N.W. of Lisbon, noted for its great and beautiful pile of buildings erected in imitation of the Escorial of Spain by John V. in 1717-31. The buildings include a church, royal palace, monastery, and college. Pop. 4000.

Magadha, in ant. India the name of the kingdom of Prasil, the cap. of which, Pallibothra (Sanskrit Pataliputra), was situated on the Ganges. The Gk. knowledge of this kingdom was probably derived from the expedition of Seleucus against Sandracottus Chandragupta (q.v.), king of M.

Magalhães, Fernão de, see MAGELLAN, FERDINAND.

Magallanes: 1. Ter. of Chile, comprising the whole of the coast strip S. of 47° S., i.e. between the gulf de Penas and Cape Horn, and all the Is., except half the Is. of Tierra del Fuego and Staten Is. Mts. and forests occupy the N. part; desolate and sterile pampas plains, abounding in lagoons and salt marshes, the S. part. Timber and furs are produced; gold, coal, and copper are found. Area 52,271 sq. m. Pop. 48,801. 2. Cap. (formerly Punta Arenas) of M. ter., on the strait of Magellan. The most southerly tn. in the world, formerly a convict station, it is the centre of supplies for various stations in Tierra del Fuego, S. Patagonia, and the Falkland Is., and a coaling station for vessels passing through the strait. A new mole, enlarging the port facilities, was opened in 1927. Rye and barley are grown; tallow, hides, frozen meat, and wool are exported. Pop. 27,000.

Magazines. This term is usually applied to periodical pubs. which deal with general or particular subjects in literature or art, and often contain stories and poems. The modern magazine dates from 1731, when Cave pub. the *Gentleman's Magazine*, which continued until 1907. This was followed by the *Scots Magazine* in 1739 (ended in 1817), the *Monthly Review* (1749-1815), and the famous though short-lived *London Magazine* (1820-29). *Blackwood's Magazine* appeared in 1817, having a great influence owing to its topical criticisms. An *Edinburgh Monthly Review* was pub. from 1819 to 1823. *Fraser's Magazine* (1830), which became *Longman's Magazine* in 1882, numbered Carlyle and Thackeray among its contributors. The first magazine pub. at one shilling was *Tait's Edinburgh Magazine* (1832). Among the other M. pub. under these conditions were *Temple Bar* (1860-1906) and the *Cornhill*, the latter ed. by Thackeray. The price was reduced to sixpence with *Longman's Magazine* (1882-1905). *Review of Reviews*, pub. in 1890, and the *Strand Magazine* in 1891 were others. Among the more prominent Amer. M. are (or were) *Scribner's* (ceased pub. in 1939), the *Century* (merged in the *Forum* in 1930), *Harper's*, *Cosmopolitan*, the *Saturday Evening Post*, the *Forum* (founded 1886), now *Current History* and *Forum*. The twentieth century has seen the issue of innumerable M. designed to cater for the public's demand for short stories and 'potted' knowledge. Illustrations from drawings or photographs are a notable feature of many. There have also been brought out sev. M., such as the *London Mercury* (extinct), the *Adiphi*, and the *Criterion* (extinct), which have made their mark as examples of high-class M. In France the *Revue des Deux Mondes* holds a high place as a critical review. The earliest Canadian M. were the *Canadian Magazine*, pub. in Quebec in the 1820s; the *Nova Scotia Magazine* and some Fr.-Canadian pubs., notably the *Qu'ec Magazine*, which were started in the last part of the eighteenth century. The *Sydney University Magazine*, begun in 1855, was the

first of the Australian M. of repute, and it is worthy of note that the tone of dominion univ. M. of to-day is uniformly high, particularly the *Queen's Quarterly*, the organ of Queen's Univ., Kingston, Ontario. Other well-known dominion M. are the *Canadian Forum* and the *Dalhousie Review* (Canada) and the *Bulletin* (Australia). See H. W. Peet, *A Bibliography of Journalism*, 1913; H. Mott, *A History of American Magazines 1741-1850*, 1930; and F. Sper, *The Periodical Press of London, Theatrical and Literary*, 1937.

Magdala, hill fortress of Abyssinia, stood on the plateau of Talanta at an altitude of 9110 ft.; it was the stronghold of Theodosius, and in 1683 was taken and destroyed by the Brit. under Sir Robert Napier, afterwards Lord Napier of M.

Magdalena: 1. Chief riv. of Colombia, rises in the Central Cordillera and unites with the Cauca, 130 m. from the Caribbean Sea. It ends in a large delta, enclosing the small is. of Los Gómez, and is closed to sea-going vessels by reason of a large bar at the mouth; goods are conveyed by rail from Barranquilla to the point whence the riv. is navigable. The total length of the M. is 1060 m. 2. Small tn. in the Argentine Republic, situated on the Río de la Plata, 52 m. S.E. by E. from Buenos Aires. Pop. 4000. 3. Dept. of Colombia, in the N.E. It is bounded to the W. by the R. M., to the E. by Venezuela, and to the N. by the Caribbean Sea. Sugar, cocoa, coffee, maize, and bananas are produced; coal, copper, silver, and gold are mined; cattle and horses are bred. Cap. Santa Marta. Area 20,813 sq. m. Pop. 420,300.

Magdalen College, Oxford, one of the colleges of the univ., was founded in 1453 by Wm. of Waynflete, who had held the post of Lord High Chancellor of England. The building was begun in 1474, and is considered one of the most beautiful of all the Oxford colleges. The tower is one of the most interesting features of the college, and it is from the top of this that a Latin hymn is sung on May Day morning. A new quadrangle was built on to the college in 1885. M. Walks, part of which is known as Addison's Walk, round an is. in the Cherwell, are also famous. During the time of James II. the college came much to the fore in its resistance of the king's choice of a Catholic president. Cardinal Wolsey, John Lyly, Hampden, Addison, and Gibbon were among its former members. See H. A. Wilson, *Magdalen College*, 1899.

Magdalen College School was founded in 1480, on the same foundation as M. College, the choristers of which are now amongst its pupils.

Magdalen Hall, Oxford, was founded by Wm. of Waynflete, close to M. College, with which it was connected. In 1602 it became an independent hall and in 1822 its members were moved to the premises now occupied by Hertford College. In 1874 the hall was dissolved, and its fellows and students became incorporated as Hertford College (q.v.).

Magdalene, or Magdalen, Mary, name of

a woman mentioned in the Gospels as a disciple of Jesus (Luke viii. 2). It is recorded that seven demons were cast out of her. She apparently came from Magdala or Magadan (mod. El-Mejdel), near Tiberias. She witnessed the crucifixion of Christ, followed Him to burial, and prepared sweet spices for the sepulchre. The account in John xx. tells how she found the tomb empty, and was the first to behold the risen Jesus (see also Mark xvi. 9). From confusion with the woman who anointed Christ's feet in Simon's house (Luke vii. 37), the popular conception of her has been that of one fallen from chastity who later repented of her sins. Hence the name M. asylums was adopted for homes for penitent women, and the word maudlin (weeping) is derived from this same unfounded idea. There are many famous pictures of the M. by Correggio, Titian, Paul Veronese, and others. She has also been confused with Mary of Bethany, sister of Lazarus, and with the daughter of the Syro-Phoenician woman (Mark vii.). See legendary life by Ibrahan Marcus (ninth century) and by Vincent of Beauvais (thirteenth century).

Magdalene College, Cambridge, founded in 1542 by Baron Audley of Walden. In 1428 a Benedictine students' home had been erected on the site, which on the dissolution of the monasteries passed into the hands of Lord Audley, whose representative, the owner of Audley End, still has the power of appointing the master of the college, while the foundation of the college consists of a master, seven fellows, and the students. The most interesting and valuable possession of this college is the library, containing some MSS. and the books, including the MS. of the *Diary*, given to it by Samuel Pepys, who was one of the students.

Magdeburg, tn. of Saxony-Anhalt, Germany, formerly cap. of Saxony, on the l. b. of the Elbe, 88 m. (by rail) W.S.W. of Berlin. The city was (before the Second World War) important commercially, and it includes within its municipality the former tns. of Neustadt, Sudenburg, and Buckau. With the exception of one fine boulevard, Der Breite Weg (or Broadway), the streets are uneven and narrow. Its cathedral, a noble Gothic edifice, dates from the beginning of the thirteenth century, and contains the tombs of Otto the Great and his Eng. wife, the Princess Editha. Here also is the mausoleum of Ernest, archbishop of Saxony, the masterpiece of Vischer of Nuremberg. The prin. manufs. included (before the Second World War) Germany's chief locomotive works, steel works, woolen, silk, and cotton goods, tobacco, gloves, leather, holly, sugar, and vinegar, and there was a large trade in chemicals, cereals, and fruit. The tn. was founded by Charlemagne about 805, and a Benedictine monastery was estab. here in 937, which in 968 was raised to the dignity of an archbishopric. During the Middle Ages M. joined the Hanseatic League. The city suffered severely during the Thirty Years war, and gallantly held out for

nearly seven months when invested by Tilly. It fell, however, and was sacked and burnt, some 30,000 of its inhab. perishing; the cathedral was the only important building to escape destruction. The archbishopric was converted into a duchy in 1648, and was presented to Brandenburg. Marshal Ney captured the city in 1806, but it was restored to Prussia in 1811. The aerodrome was bombed by the R.A.F., July 23, 1940. Heavy bomb loads caused much destruction on July 5, 1941, and the factories were again bombed on Aug. 12, 1941, and on sev. occasions in subsequent years. In the invasion of Germany the Allies reached the Elbe S. of M. on April, 11 1945. The Gers. fought tenaciously to deny possession of M. itself, which, however, fell to the Amers. on April 18. Pop. 307,000.

Magee, William Connor (1821-91), Eng. prelate, b. at Cork, and educated at Trinity College, Dublin. He held various ministries, and in 1868 became bishop of Peterborough, and archbishop of York in 1891. He was an active organizer of the Church Defence Society, and as a debater and orator had few equals. He pub. *The Gospel and the Age* (1884) and *The Atonement* (1886). See J. C. MacDonnell, *Life and Correspondence*, 1896.

Magellan, Ferdinand (Portuguese *Fernão de Magalhães*) (1480-1521), celebrated Portuguese navigator, b. at Villa de Sabrosa, Trás-os-Montes, the discoverer of the strait of Magellan and the Philippines. Distinguished for his skill and enterprise, he served under Albuquerque in the E. Indies for sev. years, taking part in the capture of Malacca (1511). Considering that his services were not properly recompensed, he renounced allegiance to Portugal and went over to Spain, where Charles V. warmly received him and gave him command of a fleet of five vessels, with which he set out in 1519 to discover a W. route to the E. Indies. He was the first navigator of the Pacific Ocean, so called by him, and on his voyage also discovered the strait which bears his name, and the Ladrones. He met his death in the Philippines where he became the ally of the prince of Cebu, one of the smaller is., against the prince of another little is. of the group. M. was killed in 1521 in a battle in Mactán. His flagship, the *Trinidad*, having become leaky, was kept behind at Tidor in the E. Indies. The only ship of the five to return to Spain was the *Vitoria*, which was thus the first to circumnavigate the globe. See A. Pigafetta, *The First Voyage round the World by Magellan* (Eng. trans. 1874); and lives by F. J. Gifford, 1890; E. F. Beuson, 1929; and S. Zweig, 1938.

Magellan, Strait of, between S. America and Tierra del Fuego, 360 m. in length, varies in width from 24 to 17 m. It was discovered by the Portuguese explorer Magellan in 1520. The strait is difficult of navigation, and is enclosed on the W. by steep wooded mts. See also *TERRA AUSTRALIS INCOGNITA*.

Magellanic Clouds (Nubecula Major and Minor), two oval cloudlike patches of

nebulous light near the S. pole of the heavens, named by the navigator, Andrea Corsali, after Magellan. The Major is in the constellation Dorado, and the Minor is situated in a blank space between Hydrus and Tucana. The greater number of the variable stars of the heavens are found in these clouds. The greater nebula covers an area of about 12 square degrees and the lesser about 10 square degrees, according to Herschel.

Magendie, François (1783-1855), physiologist and physician, b. at Bordeaux, and educated at Paris. His manual of physiology, entitled *Précis Élémentaire de physiologie*, appeared in 1816. In 1821 he became a member of the Academy of Sciences and ten years later prof. of anatomy and medicine in the Collège de France, where he became noted for his experiments on the physiology of the nerves. Among his works are (*Fr. titles trans.*) *Lectures on the Physical Phenomena of Life* (1839) and *Lectures on the Functions and Instases of the Nervous System* (1839). He was also the founder of the *Journal de Physiologie expérimentale*. See life by C. Bernard, 1856.

Magenta, tn. in Lombardy, Italy, 15 m. W. of Milan, noted for the great battle fought there in 1859 between the allied Fr. and Sardinians and the Austrians, in which the former were victorious. Silks are made, and the tn. gave its name to a colour (see *FUCHSINE*). Pop. 5000.

Magenta, see FUCHSINE.

Magero Island, near the coast of Finnmarken, Norway, in the Arctic Ocean. It is irregular in outline and terminates on the N. in North Cape, the most northerly point of Europe. Pop. 32,500.

Magersfontein, battlefield, the scene of a Brit. defeat in the Boer war, 1899, in the W. of the Orange Free State, S. Africa, near the Modder R. There is a monument to the dead of the Anglo-Boer war which is the objective of an ann. Scottish pilgrimage.

Maggiore, Lake (the *Lacus Verbanus* of the Romans), in Italy, is bounded by Piedmont, Lombardy, and the Swiss Canton Ticino. It is 39 m. in length and of an irregular shape; the greatest depth is 1230 ft. The R. Ticino flows through the lake, which is traversed by steam packets. In the S.W. portion are the B. Romanca Isles; on the N. and W. it is enclosed by high mts. and on the S. and E. by vine-covered slopes. (See illustration, p. 666.)

Maggot, the grub or larva of a fly or other insect hatching from an egg deposited in its food supply. The term, which is unscientific, is usually applied to legless larvae, such as those of the blue-bottle and green-bottle flies; one of the latter is the well-known sheep M. The Ms. of fruit include a large number of insect types. The Ms. found in plant galls are those of the gall wasps.

Maghera, par. and mrkt. tn. of Londonderry, N. Ireland, 14½ m. N. of Cookstown. There are manu. of sewn muslins and linens. Pop. 7600.

Magherafelt, par. and mrkt. tn. of Londonderry, N. Ireland, 7 m. S.E. of

Maghera There is a shut factory and manu of linen Pop 4000

Maghiana, see under JHANE

Magi (derived from *mag* or *m* *ny* Ichlevi priest, *mikuth* a man who wears his hair in a particular manner, *moqh*, distin gulsher) a tribe of the Medians which were set aside for the management of the sacred rites and for the preservation and propagation of the traditional knowledge. From the Medians the institution of the M found its way under Cyrus into Persia. They were not only the 'keepers of the sacred things, the learned of the people, the philosophers and servants of C m, but also diviners, mantics, augurs,

some unreasoning association of ideas from a mere synchronisation which association has become stereotyped in the early traditions of particular races and fostered by the natural hope of penetrating the mystery of nature's laws. For an exhaustive collection of curious peasant and other beliefs that have come down through the folklore of various European nations see Hind's *Popular Antiquities* and the pub's of the Folklore Society.

Black M or the black art or M proper is that branch of M which was practised with evil intentions generally by unofficial persons like witches or sorcerers.



TAKE MAGGIORE AND THE ISOLA DEI FISCATORI

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and astrologers, and no transaction of importance took place without or amongst their advice.

Magic, word of sacerdotal origin, being derived from the Magi whose earlier functions were divinatory or prophetic but later in the Persian court sank to the level of mere occultism. M is closely akin to superstition, the belief in it as the art of exorcising spirits or producing supernatural effects being as deep seated in the psychology of races low in the scale of civilisation as any belief in extra-mundane influence. It is difficult to account for the origin of M. Sir E. B. Tylor (*Early History of Mankind*) attributes the earliest practice of M to the belief in an objective connection between two things, a man and a rude drawing of him, or two events, the death of a child and the great hawk's nocturnal cry—when in truth the connection could only be subjective. It seems more correct to say that all such connections are due to

in contradistinction to Black M, white M carries the altruistic practice of M. This situation is exemplified in the medieval beliefs in good and bad fairies. The term enchantment, which is derived from *fat* *incantare* (to repeat a chant or charm over) denotes the practice of entrancing another by charms or sorcery. Doubtless hypnotic suggestion would be looked upon by lower races as enchantment. An obvious application of white M is the healing of disease by sorcerers and is used generally by M among early orient and various aboriginal races had and has over and above its spiritual or sacerdotal significance this utilitarian aspect. See J. G. I. Gracioso, *Bibliotheca magica et pneumatica*, 1848; G. Turner, *Nineteen Years in Polynesia*, 1861; Sir E. B. Tylor, *Researches into the Early History of Mankind*, 1865; R. Brough Smyth, *The Aborigines of Victoria*, 1878; R. Yves Plessier, *Essai d'une bibliographie française de la sorcellerie*, 1900; W. W.

Skeat Malay Magic 1900 *A Long Magic and Religion* 1901 *A C Hadden Magic and Fetishism* 1906 *Sir J G Fraser The Golden Bough* 1911 *R R Marrett The Threshold of Magic* 1911, *W J Perry The Origin of Magic and Religion* 1923 *W H Rivers, Medicine, Magic and Religion* 1924 *J E Evans Fritchard Witchcraft Oracles and Magic among the Azande* 1937 *L (Hocher) Occultism et magie en L'Asie Orientale* 1941 and *I Morish, Ritual of Higher Magic* 1937

Magic Lantern, or **Optical Lantern** apparatus for projecting upon a white screen enlarged representations of diagrams, pictures, etc., drawn or photographed on glass slides. The instrument is said to have been invented by Athanasius Kircher who described it in 1646. It was at first used as an amusing toy, but in its later developments is a means of representing small pictures and objects to large audiences. The cinematograph is essentially an optical lantern. The instrument consists of a lantern body to contain the source of light and the reflectors in optical system, and a slot to accommodate the slide frame. The light is generally sunlight (or) of the electric arc. The optical system in the ordinary type consists of a 'condensing' lens which transmits the rays from light to the object and an 'objective' which receives the rays from the object and transmits them to the screen.

Magic Squares, sets of numbers arranged in the form of a square in such a manner that the sum of the numbers in each vertical and horizontal column and in each diagonal is constant. The following may serve as examples of their construction.

In Fig 1 the numbers 1 to 5 are arranged in any order in the first row; the second commences with the number in the fourth cell of the first row and proceeds in the same relative order. The third row commences with the number in the

2	1	5	3	4
3	4	2	1	5
1	5	3	4	2
4	2	1	5	3
5	3	4	2	1

FIG 1

fourth cell of the second row, and proceeds in order and so on. Fig 2 consists of the numbers 0 to 4 multiplied by 5 and each row starts with the number in the third cell of the row above. If now the numbers in the cells of Fig 1 be added to those in the corresponding cells of Fig 2 the result is a M.S. as in Fig 3.

By altering the order of the numbers in the top row and making corresponding changes in the other rows a large number

15	5	0	20	10
0	20	10	15	5
10	15	5	0	20
5	0	20	10	15
20	0	15	5	0

FIG 2

of such M.S. can be obtained by successive additions. The simplest of all M.S. is formed by the nine digits with 5 in the

17	6	5	23	14
3	1	12	16	10
1	20	8	1	22
9		21	15	18
25	13	9	7	1

FIG 3

centre and the even numbers at the corners. M.S. were in old times universally believed to possess astrological qualities.

Maginot, Andre (1857-1932) Fr soldier at Paris organizer of the famous fortifications which became known as the **Maginot line**. He enlisted as an infantryman in the First World War and was soon promoted to the rank of sergeant but, after three months was so badly wounded at the fortress of Douaumont in the great Verdun battle that the next month he was released from military service. He was able to turn his attention to the larger problems of the protection of his country from the recurrent German menace. In 1917 he became minister of colonies. In 1922 and again in 1929 he was minister of war. Together with Lavalé the Fr president he worked out the scheme for the **Maginot line**. The original scheme was completed in 1934 but in the meantime, in 1932, its creator had died. The line stretched from the Belgian frontier to the Swiss frontier. It cost more than £30,000,000 to construct and was subsequently augmented in strength. The **Maginot line** was outflanked by the Germans in 1940 and in June of that year they crossed the Rhine and broke through the line. The overrating of the **Maginot line** and the

passive strategy resulting from it are regarded as one of the contributory causes of the Fr. collapse. As early as 1927 the Maginot line was described by Maj.-Gen. Paller, the Brit. mechanized war expert, as 'the tombstone of France.' See also under WESTERN FRONT IN SECOND WORLD WAR.

Magione, vil. of Central Italy, 8 m. W.N.W. of Perugia. It suffered damage in the battles of 1944. The church of the Madonna delle Grazie was hit and the castle of the Knights of Malta was damaged by shell-fire, but remained structurally intact.

Magistrate, one in whom is vested jurisdiction or executive authority in affairs of civil gov., in other words, an administrator of the law. In this sense the king is the first M. in a monarchical state, while in a republic the president is the chief M. The word is now more usually applied to subordinate officers to whom a part of executive judicial power is delegated; in England it means, specifically, a minor judicial officer, such as a justice of the peace, a stipendiary, or a police magistrate; in Scotland, a provost or bailie of a burgh. Prior to the Local Government Act, 1888, the administrative work of the co. fell to the lot of the justices or magistracy, but the Act, while leaving them their judicial functions, took away the bulk of their administrative functions. See also JUSTICE OF THE PEACE. See Stone's *Justices' Manual* (annually), 79th ed. (1917) by F. J. Hayward. See also W. Shaw, *Evidence and Procedure in Magistrates' Courts*, 1946; J. P. Eddy, *Justices' Handbook*, 1947; L. Page, *Justice of the Peace* (3rd ed.), 1947; F. J. Hayward and H. Wright, *Office of Magistrate* (5th ed.), 1948; and F. T. Giles, *The Magistrates' Court*, 1949.

Magliabecchi, Antonio da Marco (1633-1714), lt. librarian and bibliophile, b. at Florence, famed for his vast and varied knowledge of languages and antiquities. For many years he was librarian to Cosimo III., grand duke of Tuscany. At his death he left his collection of MSS. and early eds. to the grand duke, who gave it to the city.

Maglie, tn. in the prov. of Lecce, Italy, 19 m. E.N.E. of Gallipoli. Pop. 9000.

Magna Carta, or **The Great Charter**, the famous document granted by King John at Runnymede, on the R. Thames, to the barons in 1215, viewed in after times as the basis of Eng. liberties and described by the historian Hallam as the 'keystone of English liberty.' Its great underlying principle is that the king must keep the law. John's oppressions and tyrannies aroused the barons to take up arms to redress their grievances, their demands being based on the charter voluntarily granted by Henry I. In addition, it contained sixty-three clauses embodying provisions for the protection of the rights of feudal proprietors and against the abuse of the royal prerogative. Its prin. provisions were the redress of a number of grievances connected with feudal tenures; provisions regarding the relief of heirs, wards, and marriage of the widows of

tenants-in-chief; the inviolability of the liberties of the city of London and other ports and tns.; freedom of commerce to foreign merchants; the strict administration of justice; the permanent abode of the court of common pleas at Westminster; the holding of assizes in the different co.s, and the estab. of assizes; the abolition of extraordinary taxation; the protection of life, liberty, and property; one standard of weights and measures; no banishment or imprisonment save by judgment of peers. It may be noted that the word 'outlawed' in M. C. is out of date and meaningless, but a standing committee of the House of Commons, when discussing the Administration of Justice (Miscellaneous Provisions) Bill which, *inter alia*, proposed to repeal the word from M. C., decided for sentimental reasons to leave the anct. statute as it was on the Statute Book. See K. Hantos, *Magna Carta*, 1904, and W. S. McKechnie, *Magna Carta*, 1905.

Magna Carta (Charta) Island, 2 m. N.W. of Staines, in the Thames, Surrey, England. It was the site of the signing of *Magna Carta* by King John in 1215.

Magna Græcia, name given by the anct. historians and geographers to the Hellenic settlements of pre-Rom. times in the S. of Italy. They included Bruttium, Lucania, Apulia, and Iapygia. Important cities were Tarentum and Cumæ. The Gks. colonised extensively in the Mediterranean, but the term M. G. was exclusively used to denote those settlements in S. Italy not including Sicily, which was a separate colony. Of all the cities of M. G., Tarentum was the most important, and lent its influence to the other tns. under the Hellenic civilisation. The best part of the hist. of M. G. may be studied in the hist. of Tarentum (q.v.) itself.

Magnanum Alloys, see under MAGNESIUM.

Magnes, Judah Leon (1877-1948), Jewish rabbi and Zionist, b. in San Francisco. He was educated at Cincinnati Univ., and Heb. Union College, and, later, at Berlin and Heidelberg. Appointed instructor and librarian at the Heb. Union College in 1903, he became rabbi of Temple Israel, Brooklyn, 1904. His early years were spent in the Jewish ministry. He was secretary of the Amer. Zionists 1905-8, but had no sympathy with political Zionism, the soul of the Jewish people or, as he termed it, the mission of Israel being much more important than the ambitions of the Jewish Nationalists. He settled in Palestine in 1922. M. was the official and trusted adviser to a succession of Brit. high commissioners. His relations with the official Zionists in Palestine and elsewhere were always strained, for as time passed he became certain that an Arab-Jewish *entente* was essential. To the decisions taken on Nov. 10, 1917 by the United Nations he made strong objections, although the idea of internationalisation of the Holy City appealed to him. His prin. work, however, was in connection with the Heb. Univ., on Mt. Scopus, the site of which he chose as far back as 1912. When

in 1925 it at last took shape he became chancellor (in the Amer. sense), that is to say head of its administration. Thenceforth the Univ. was almost the whole of his life. In 1935, when its constitution was remodelled, M. became president.

Magnesia: 1. *Magnesia ad Mareandrum*, anct. city of Ionia, Asia Minor, 10 m. N.E. of Miletus, near the Mæander. Until it fell into the hands of the Romans it was a wealthy and prosperous city. It was destroyed by the Cimmerians about 700 B.C., and here Themistocles, the Athenian patriot, d. 449 B.C. 2. *Magnesia ad Sipylum*, Turkish city on the Hermus, near Mt. Sipylum, N.W. of Lydia. Near this in Scipio defeated Antiochus of Syria, in 190 B.C. Its modern name is Manissa, and it contains 31,000 inhab. 3. Div. in anct. Thessaly, along the E. coast, with Mt. Pelion and Mt. Ossa on its borders.

Magnesia, see MAGNESIUM.

Magnesia, Sulphate of, see EPSOMITE.

Magnesium Limestones, formation occurring in the middle div. of the Permian system. It consists of a bed of brown shale with bands of marl slate and a superposed zone of dolomite. It is a characteristic feature of the Permian system in the E. of England and is represented in the W. by continuous limestones and sandstones. The term M. L. as a rock is applied to dolomite, a mineral crystallising in octohedra and consisting of calcium and magnesium carbonate.

Magnesite, mineral consisting of magnesium carbonate ($MgCO_3$). It is polymorphous with calcite, and is met with in three forms, crystalline, massive, and earthy. The crystals occur in rhombohedra, and have a hardness of 4 and a sp. gr. of 3. The other forms are white in colour and are often mixed with meerschaum or other magnesium salts. The mineral is mined in Kubra, Madras, and California, and is used for the manu. of fire-bricks, as a source of magnesium salts, and as a pigment.

Magnesium, symbol Mg; atomic number 12; atomic weight 24.32, a metallic bivalent element. First known in the form of the sulphate, or Epsom salts, in the eighteenth century the oxide, or magnesia alba, was prepared, and was at first thought to be chemically identical with lime. In 1808 Davy demonstrated that magnesia was the oxide of a metal; the metal was obtained in a fairly pure state by Bussy in 1829. M. occurs in the form of carbonate in magnesite, dolomite, and magnesian limestone; as sulphate in sea water and some mineral waters, as at Epsom in Surrey, and Seidlitz in Bohemia, also as the mineral kieserite; it occurs as chloride in the mineral carnallite at Stassfurt; it also enters into the composition of many silicates, as hornblende, talc, olivine, asbestos, and meerschaum. Metallic M. is commonly prepared from the mineral carnallite, which is fused with fluorspar in the presence of metallic sodium. The impure metal thus obtained is then sublimed and the product pressed into the form of ribbon. It is usually prepared from fused carnallite by electrolysis.

The operation is performed in an iron pot which acts as the cathode, whilst carbon rods form the anode. The whole apparatus is closed inside an electric furnace so that the temp. may be so maintained that the resulting M. shall remain molten. A current of coal gas and hydrogen serves to prevent the access of oxygen which would cause oxidation. Chlorine, a gaseous product of the electrolysis, is led off by a side pipe. M. is a lustrous white metal of sp. gr. 1.75 and melting-point $649^\circ C$. It is malleable and ductile. When heated in air it burns with great brilliancy, forming the oxide MgO , a white powder slightly soluble in water and very infusible (used as a refractory lining for furnaces); at the same time a little M. nitride is usually formed, Mg_3N_2 . When the metal burns in chlorine, the chlorine $MgCl_2$ is formed. It may also be prepared by the action of hydrochloric acid on magnesia or M. carbonate. The bromide and iodide resemble the chloride; they are soluble in water and occur in sea water.

The sulphate formerly obtained from the springs at Epsom is now obtained from the mineral kieserite; the salt is fairly soluble in water. M. is used in photography for producing a brilliant light rich in chemical rays; it is used for a similar purpose in pyrotechny. The salts are useful purgatives. The sulphate, or Epsom salts, is most commonly employed, and acts by virtue of abstracting water from the tissues into the bowel; the stronger the solution, the more water is thus abstracted. Fluid magnesia is an aperient prepared by dissolving the carbonate in water impregnated with carbon dioxide. Citrate of magnesia, a popular effervescent aperient, consists of a mixture of bicarbonate of soda with tartaric and citric acids with a small proportion of Epsom salts. M. finds a ready use in chem., since it is a powerful reducing agent. It is very valuable in organic chem. in the form of M. alkyl compounds which serve to effect numerous syntheses. The magnalium alloys contain M. and aluminium in various proportions. A common one contains 10 per cent M. is of a silvery colour, and can be soldered. One containing 25 per cent M. is very like bronze. The magnalium alloy also possesses the advantage of being lighter, bulk for bulk, than aluminium, and they are used for castings. They do not corrode easily, and have considerable tensile strength. An aircraft, called the Planet Satellite, has been constructed entirely of M. See E. V. Pennell, *Magnesium, its Production and Use* (2nd ed.), 1948.

Magnet, see under MAGNETISM.

Magnetic Belts, see ELECTRO-THERAPY.

Magnetic Pole and Units, see MAGNETISM.

Magnetism. The familiar property of a magnet, viz. its power of attracting iron and steel, has been known since the time of Thales of Miletus (640-546 B.C.). The name magnet is derived from the town of Magnesia (now Manissa), in whose neighbourhood natural magnets were found. This mineral, known as magnetite (q.v.) or

lodestone, contains considerable quantities of the oxides of iron, FeO and Fe_2O_3 . It was used as a crude compass (hence the name lodestone; lode = A. -S. *löd* = way) before artificial magnets were employed for that purpose. Artificial magnets were formerly made by stroking iron with a magnet, but in 1819 Oersted discovered the phenomenon of electromagnetism (q.v.), and since that time powerful magnets are made as follows. A solenoid (Gk. $\sigma\lambda\eta\iota$, a pipe) consisting of a narrow tube of any non-magnetisable substance is closely wound with a large number of turns of insulated wire. The bar to be magnetised is then placed inside the solenoid and a current is passed through the wire. Iron, nickel, and cobalt are highly magnetisable, but the best substances for making permanent magnets that will retain their M. if treated with care are steel alloys containing small quantities of tungsten, cobalt, aluminium, etc. The residual power of soft iron is very small, although it is highly magnetic. It is therefore used for the cores of electro-magnets (q.v.). All steel magnets lose their M. if they are heated in a bright red heat; they lose some of their M. if subjected to shocks or hammering, and they are best kept by storing together in pairs, opposite poles (see below) being connected by short pieces of soft iron.

Properties of a Magnet.—If a bar magnet is dipped into iron filings, the latter cling to the ends of the bar and very few to the middle of the bar. The regions near the ends are called the poles of the magnet, and there appears to be no difference between them as regards their power of attraction of the filings; this fact can be confirmed by quantitative experiments. Such a magnet, if pivoted so that it can rotate about a vertical axis in a neighbourhood free from iron and electrical machinery, will come to rest in a line approximately N. and S. (see below). The pole of the magnet that seeks the N. is called the N. pole, the other is called the S. pole. Experiment shows that like poles repel and unlike poles attract each other. This fact accounts for the behaviour of the compass; the earth itself is a magnet, with a magnetic S. pole in the Arctic regions and a magnetic N. pole in the Antarctic regions. It also explains why a magnet attracts iron; the iron becomes magnetised, and is then attracted by the magnet. These familiar properties of a magnet, and the fact that the earth was a magnet, were discovered by Wm. Gilbert (q.v.), 'the father of magnetic philosophy.'

Quantitative Magnetism.—The quantitative law of the force of attraction and repulsion between magnetic poles was determined by Coulomb (1736-1806) and verified more exactly by Gauss (1777-1855). Defining unit magnetic pole as one that repels a similar pole placed one centimetre away in *vacuo* with a force of one dyne, Coulomb's experiments led to the conclusion that a pole of strength m repels a pole of strength m' at a distance of r cm. in *vacuo* with a force of $\frac{mm'}{r^2}$ dynes.

For mathematical computations it is con-

venient to designate N. poles as positive poles and S. poles as negative poles, and it can be shown that every magnet can be regarded for quantitative calculations as consisting of two poles of strengths $+m$ and $-m$. The pole strength of a good small steel magnet is of the order of 200 units.

The regions of magnetic attractions and repulsions round a magnet is known as a magnetic field. The character of a magnetic field was investigated by Faraday (1791-1867), to whom the idea of 'action at a distance' was repugnant. Instead of magnetic poles attracting or repelling each other without the intervention of a medium, Faraday imagined the medium traversed by lines of magnetic force that gave the direction of the magnetic force at any point. Fig. 2. shows the lines of magnetic force in the neighbourhood of a bar magnet. The arrows indicate the direction in which a free pole would move. Faraday imagined these lines to spread in all directions, beginning on N. poles and ending on S. poles, and this physical theory was mathematically interpreted at a later date by Maxwell with great success. A magnetic 'map' can be surveyed by means of a small compass or, alternatively, by means of iron filings sprinkled on a card placed above the magnet or magnets. The filings become magnetised and act as a myriad of small compasses that set themselves along the lines of force. The quantitative character of a magnetic field is determined by defining the magnetic force at a point in the field. The unit of magnetic force is 1 gauss, defined as the strength of the field at a point where a unit pole is repelled with a mechanical force of 1 dyne. Thus the magnetic force at a point is H gauss if a pole of strength m placed there is repelled with a mechanical force of mH dynes. The strongest magnetic fields are those between the poles of the most powerful electromagnets; they are of the order of 50,000 gauss. The strength of the earth's magnetic field in London at the present time is about 0.45 gauss. Quantitative measurements in M. involve the use of a magnetometer (q.v.).

Theories of Magnetism.—All substances are magnetic to a slight degree, and their feeble magnetic properties may be observed when they are placed in an intense magnetic field. The extent to which they are magnetised is, generally speaking, directly proportional to the strength of the magnetising force. Most substances are paramagnetic, i.e. they become magnetised with their magnetic axes (the line joining the S. pole to the N. pole) parallel to the magnetising force; a few, notably bismuth, are diamagnetic; these substances become magnetised with their axes making an angle of 180° with the magnetising force. The ferromagnetic substances, iron, nickel, cobalt, and some of their alloys, are all paramagnetic, but the extent to which they are magnetised depends not only on the magnetising force, but also on their previous magnetic hist. Furthermore, if the magnetising force is increased, a stage is reached when the magnet becomes saturated, i.e. its pole strength reaches

a maximum value. Now when a magnet is broken in two, we do not obtain two halves, one with a N pole the other with a S pole. Two new poles appear at the point of fracture, however often this process is repeated the same result is obtained: every magnet has two poles. Weber suggested that every magnet was really composed of magnetic particles, particles that we now believe to be of molecular dimensions. Iwing developed his theory and suggested that since the act of magnetisation did not change the chemical character nor the weight of

electron (qv) the elementary charge of electricity. This idea has been developed by physicists notably Einstein, de Haas, and Bohr. An electric current flowing round a circular coil has a magnetic field similar to that of a magnet whose axis coincides with that of the coil; the electrical theory of matter attempts to ascribe the magnetic properties of bodies to the orbital motions of the electrons in the atom. The quantum theory of the atom developed by Einstein and Bohr supported the magneton theory, and more recently direct experimental evidence of the existence of a magneton has been obtained by Gerlach and Stern.

Terrestrial Magnetism. The importance of the magnetic properties of the earth was realised by navigators and it is to sailors and those connected with nautical matters that most of the investigations and records of terrestrial magnetic phenomena are due. By a series of observations at different points of the earth's surface it has been possible to chart the magnetic elements peculiar to a locality, and thus of able mariners to correct their compasses to the true geographical meridian. The magnetic elements at any point on the earth's surface are (i) the horizontal component of the earth's magnetic force, (ii) the declination (or magnetic variation) the angle between the magnetic meridian and the geographical meridian, (iii) the angle of dip (or inclination) the angle between the direction of the earth's resultant magnetic force and the horizontal at that point. The magnetic elements are by no means constant; they are subject to secular change, to diurnal variations, and to irregular changes known as magnetic storms that are especially violent in the Arctic and Antarctic regions. The declination in London for example was $11^{\circ} 15'$ in 1580, in 1607 it was nil, in 1800 it was $24^{\circ} 0'$ W, and it is now about 10° W and decreasing by 1° yearly. The magnetic poles of the earth are at present situated at 71° long 96° W (N pole) and at 73° long 155° E (S pole).

The daily variation of the declination in London takes place from 1° to W in the morning and then returns; the extent of the variation being $12'$ in summer and $7'$ in winter. As the variation is also greater during the day than at night it is evident that the cause is connected with solar radiation. The intensity of the magnetic storms is found to bear some relation to the frequency of sun spots, and often to displays of aurora borealis. The actual cause of the earth's M and its secular changes is of course. The obvious suggestion that the former is due to the lodestone present in the earth does not nearly account for the magnitude of the magnetic effects or for the secular changes, other tentative explanations have similar grave defects.

The variation of the earth's magnetic force from one locality to another requires the constant attention of mariners during a voyage. The modern gyro-compass that is used as a master compass on all large vessels is not a magnetic compass,



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THE USE OF THE ELECTRO-MAGNET IN INDUSTRY

4 in diameter lifting magnet lifting 30 wt ft of disks

the specimen but simply endowed it with magnetic properties, magnetisable substances consisted of molecular magnets. According to this theory an ordinary piece of iron is made up of molecular magnets arranged in haphazard fashion so that they neutralise each others effect on external bodies. This disorder disappears when the iron is placed in a magnetic field and the molecular magnets are set with their axes parallel to the field. Free poles appear at the ends of the magnet while the central portions exhibit only feeble magnetic powers because equal and opposite poles neutralise each others effects. This theory accounts for the appearance of new poles wherever the magnet is broken, and the state of saturation is reached when all the molecular magnets have been arranged in order. Subsequent loss of M is explained by the partial return to disordered array.

Early in the present century Weiss suggested the existence of the magneton or elementary magnet, an analogue of the

and it is set so that it always indicates the true geographical meridian. It is interesting to note that a magnetic compass, freely suspended, will come to rest in a vertical position at the earth's magnetic poles.

Magnetic Observatory.—The prin. observatory in Great Britain is at Eskdalemuir in Scotland, on a site far removed from the presence of iron and electrical machinery. Formerly the headquarters of the gov. survey were at Kew, but the advent of the trams and the electrification of the S. railway at Richmond, about 1 m. away, caused irregular variations of the magnetic field, so that reliable survey became impossible. The authorities received compensation for this magnetic interference and removed to the present site.

See (elementary), W. C. Badcock and E. J. Holmyard, *Electricity and Magnetism for Beginners*, 1931; (advanced), J. Clerk-Maxwell, *Electricity and Magnetism*, 1873; J. J. Thomson, *Elements of the Mathematical Theory of Electricity and Magnetism*, 1895; Sir J. Jeans, *Mathematical Theory of Electricity and Magnetism*, 1908, 1941; F. R. Piddock, *A Treatise on Electricity*, 1925; E. C. Stoner, *Magnetism and Atomic Structure*, 1926, and *Magnetism and Matter*, 1934; S. Chapman, *The Earth's Magnetism*, 1936; N. F. Mott and others, *Magnetism*, 1938; L. F. Bates, *Modern Magnetism*, 1939; J. A. Fleming (editor), *Terrestrial Magnetism and Electricity*, 1939; and S. Chapman and J. Bartlett, *Geomagnetism*, 1940. See also J. C. Beattie, *Report of a Magnetic Survey of South Africa*, 1909.

Magnetite, mineral consisting mainly of black oxide of iron, Fe_3O_4 . It is identical with lodestone, and is famous under that name for its magnetic qualities (A.-S. *līd*, way). It occurs as crystals in the cubic system, having a hardness of 6 and a sp. gr. of 5; it is black and opaque, and has a metallic lustre. It is widely distributed entering into the composition of many volcanic rocks, and is valuable as an iron ore.

Magneto-electric Machine, see **ELECTRIC GENERATOR**.

Magnetograph, instrument automatically recording the daily variations of either the horizontal or vertical components of the earth's magnetic force, or the declination (see **MAGNETISM**) at a given magnetic observatory. Ms. are essentially sensitive magnetometers (q.v.) in which the movements of the magnetic needle are magnified by focusing a beam of light reflected from a light mirror, attached to it, on a strip of sensitized paper. The paper is wrapped round a drum that slowly revolves by clockwork. The magnetic needle is mounted differently for each of the three magnetic elements recorded.

Magneto Ignition, see under **MOTOR CARS**.

Magnetometer, instrument for comparing the strengths of magnetic fields (see **MAGNETISM**). A common pattern of M. consists essentially of a very short compass, pivoted so that it can rotate in a horizontal plane, carrying a light non-

magnetic pointer fixed at right angles to its centre. The pointer moves over a circular scale graduated in degrees. With this M. the strength of a magnetic field F at a given point can be compared with the horizontal component of the earth's magnetic field H at the same point. It is convenient for purposes of computation to arrange F and H at right angles to each other. The M. is placed with its needle centred over the point in question and the deflection θ of the needle from the magnetic meridian is observed. The needle sets itself in the direction of the resultant of F and H : it follows from the parallelogram of forces that $F = H \tan \theta$.

A more sensitive pattern consists of a short bar magnet mounted on the back of a small plane mirror suspended by means of a fine torsionless fibre of unspun silk. Small deflections of the M. needle are read by reflecting a beam of light by the mirror on to a distant scale.

Magnificat, song of thanksgiving of the Virgin Mary (Luke i. 46-55), incorporated into the evening service of the Anglican Church, to be said or sung after the first lesson. It forms part of Rom. Catholic vespers, its place here dating back to about the sixth century.

Magnifying Glass, see **LENS**.

Magnitogorsk, industrial city near the site of a vil. at the foot of the Magnitnaya Mt. on the S. slopes of the Urals, in the Chelyabinsk region of the R.S.F.S.R. It owes its existence to the presence of two hills consisting of high-grade iron ore and partly to Stalin's presence, when he warned the Russian people in 1931 that they must make Russia as strong as the surrounding capitalist nations or perish. By 1933 250,000 people—Communists, kulaks, foreigners, Tartars, and a mass of Russian peasants—had made of M. one of the biggest steel production centres in Europe. Money was spent on it lavishly, men froze, hungered, and suffered, but the work of construction went on with a disregard for individuals and with a mass heroism unparalleled in hist. As in the case of other new industrial regions developed during the period of the first Five-Years plan, the semi-trained workers of M. could not operate the elaborate machines installed and costly equipment was often ruined, while men were gassed, poisoned, and maimed. Yet the output of steel increased from year to year and the importance of M. to the Soviet Union may be gauged from the fact that its steel played a vital part in the defence of Stalingrad. Great blast furnaces and steel mills supply large machine-building and machine tool works both at M. and in other tns. of the Urals; while a great chemical industry has been estab. The whole M. combine covers an area of nearly 30 sq. m. in the valley of the R. Ural. Pop. 145,900.

Magnitude, in astronomy, the brightness of a star. The term was used in the form *peripha* by Ptolemy, who pub. a catalogue of the stars visible in the N. hemisphere, and divided them into six classes according to their brightness, with which was naturally associated some idea of their

relative size. The six Ma. of Ptolemy were arranged with the brightest in the first M., and proceeded to the sixth M., or least visible stars. He also introduced some measure of subdivision, attaching the symbol μ to the M. of a star if it exceeded the average of its class, and attaching the symbol σ if it was below the average in brightness. Many attempts have been made to catalogue the stars with respect to M., and the following is given as the result of observations on the numbers and M. of stars between the N. pole and 35° S.: 1st M., 14; 2nd M., 48; 3rd M., 152; 4th M., 313; 5th M., 854; 6th M., 2010. It is estimated that the numbers of stars required to give the same light as a star of the first M. are as follows, counting from the first M. to the sixth: 1, 24, 6, 16, 40, 100.

Magnolia, large genus of hardy and half-hardy deciduous and evergreen flowering shrubs of the order Magnoliaceae with fragrant solitary flowers. *M. grandiflora* is a fine evergreen tree attaining a height of 70 ft. in America, known as the American holly. From its seeds the free-flowering Exmouth variety was propagated, and the Chinese yulan, *M. conspicua*, of which there is a purple-flowered double-flowered variety. The yulan bears large, water-lily-like fragrant flowers on leafless twigs in March. *M. stellata* is a small shrub with an abundance of white star-shaped blooms, which appear in April. It is a garden favourite and is best kept as a bush, in which state it will remain fruit-flowering for years. Both the Jap. *M. Sieboldii* (parviflora) and its Chinese cousin *M. sinensis* are good strong garden plants, though like most of the favourite flowering shrubs, they are damaged by late spring frosts. Both tend to form small bushy trees, very symmetrical when well grown. These Ms. flower over a long season; *M. parviflora*, in particular, is seldom without flowers from June to Aug. A light soil is necessary for the M. and the addition of ample manure is also desirable. The M. should, when possible, be grown in sheltered positions. Some species need the assistance of glass.

Magnoliaceae, natural order of trees and shrubs, divided into two tribes: Magnolieae, with carpels in a cone, and Winterae, with carpels in a single whorl.

'Magnolia State', see MISSISSIPPI.

Magnus, name of the kings of Norway, among whom may be mentioned:

Magnus the Good (d. 1047), accepted as king in 1035, who became king of Denmark also in 1042, was a son of St. Olaf.

Magnus the Barefooted (1073-1103), became king in 1095. He subdued the Orkneys and the Hebrides, but was killed while on an expedition to Ireland.

Magnus the Lawgiver (1238-80), son of Haakon IV., reigned from 1263. He constituted himself a reformer of the laws of his country, compiled laws for Iceland, and made the crown hereditary.

Magnus Eriksson (1316-74), king of Norway and Sweden in 1319. In 1313 Norway was given to his son Haakon, and in 1363 he himself was forced to give up the throne to Albert of Mecklenburg.

Magnusson, Arni (1663-1730), Norse scholar, b. in Iceland. After studying in Copenhagen, he acted for a short while (1701-2) as prof. of Dan. antiquities in the univ. there. Subsequently he travelled through Iceland (1702-12), making a collection of N. antiquities and old Icelandic MSS. This valuable collection, a great part of which was destroyed by fire in 1728, is preserved in the Copenhagen Univ. See *Catalogue*, with memoir, by Dr. Kr. Kaalund (1888-94).

Mago (d. 203 B.C.), Carthaginian soldier, the youngest son of Hamilcar Barca and brother of Hannibal. He took part in Hannibal's great campaign in Italy (217-216 B.C.), and then joined his other brother Hasdrubal in Spain, where he carried on the war for many years. He was defeated by M. Junius Silanus in 207, and at Salpica by Scipio Africanus in 206. The Carthaginian Gov. forthwith ordered him to invade Liguria (204-203 B.C.), and he d. of his wounds on his voyage back to his native city.

Magog, see GOG and MAGOG.

Magpie, familiar name of sev. species of *Pica*, a genus of passeriform birds belonging to the family Corvidae. *P. pica*, or *caudata*, the commonest species, is known all over Europe, and extends through the Palaearctic region; it can easily be tamed; *P. nuttalli*, a native of California, is distinguished by a bright yellow bill and a naked blue spot behind the eye.

Magnificum, see MAINZ.

Magwe: 1. Div. of Upper Burma, comprising the Irrawaddy valley from the delta to the confluence of the Chindwin. Area 17,576 sq. m. Pop. 1,905,300. 2. Dist. of Upper Burma in the M. div. The Irrawaddy forms its W. boundary. The soil is fertile, and oilseeds, rice, cotton, maize, etc. are grown and there are oil-mills. Area 3313 sq. m. Pop. 199,000. 3. Cap. of above dist., and port of the Irrawaddy R., 70 m. S. of Pagan. Pop. 7500.

Magyarország, see HUNGARY.

Magyars, dominant race of Hungary, constitute a branch of the Finno-Ugric tribe, and came originally from the plains E. of the Carpathians. About the year 896 they descended into the Moravian realm, under the leadership of Arpad, the great national hero, and caused great devastation and pillage, until they were driven back by the Gers. in the tenth century. After this they settled down to a more peaceful existence, embraced Christianity, formed laws, and made rapid advances in civilisation. There are other races in Hungary, Serbians, Wallachs, Ruthenians, Slovaks, and Gers., but the M. have always taken the most prominent part in public affairs. The language spoken is of Finnish derivation. See also HUNGARY.

Mahabaleshwar, chief hill-station of Bombay Prov. on the E. slope of the W. Ghats, founded as a sanatorium in 1828. It is situated on a ridge about 4500 ft. high, 74 m. S. of Poona. Near the foot of the hill is the source of the R. Krishna, marked by an anct. temple which is the resort of Hindu pilgrims.

Mahābhārata, sacred book of the Hindus, and one of the two great epics of anc. India, the other being *Rāmāyana*. It is probably the longest epic in the world, being about eight times as long as the *Iliad* and *Odyssey* together. The authorship has been ascribed to Vyāsa, but that is probably a generic name; it bears all the marks of being a compilation, for its contents are heterogeneous in the extreme. The leading story relates the contest between the Kurus, representing the spirit of evil, and the Pandus, representing the spirit of good. The temporary triumph of evil is shown by the adversities of the Pandus, while their ultimate renunciation of an earthy for a heavenly kingdom signifies the final victory of good. The text was first printed in 1834-39 in Calcutta. See R. C. Dutt, *Mahabharata* (1899) (Everyman's Library, 1910), and E. W. Hopkins, *The Great Epic of India, its Character and Origin*, 1901, 1921.

Mahadeva, see SIVA.

Mahaffy, Sir John Pentland (1839-1919). Irish classical scholar, b. in Switzerland. He was prof. of anc. hist. at Dublin. His chief publs. are a trans. of Kuno Fischer's *Commentary on Kant* (1866); *Social Life in Greece from Homer to Alexander* (1874); *Greek Antiquities* (1876, a standard school-book); *History of Classical Greek Literature* (1880); *The Greek World under Roman sway* (1890); *The Silver Age of the Greek World* (1906). He also deciphered and ed. the Petrie Papyrus in the *Cunningham Memoirs* (1891-1905).

Mahallat: 1. (formerly Anar). Prov. of Central Persia between Kashan and Iraq, and traversed by the Kum R. Pop. about 20,000. 2. Cap. of the above. Pop. about 9000.

Mahan, Alfred Thayer (1840-1914), Amer. rear-admiral and writer, b. Sept. 27, at New York. He served in the navy for forty years, retiring in 1896, and became rear-admiral (retired) in 1906. He was the author of *The Gulf and Inland Waters* (1833); *Influence of Sea Power upon History* (1890); *Influence of Sea Power upon the French Revolution and Empire* (1892); *Life of Nelson* (1897); *The Interest of the United States in Sea Power* (1897); *The Problem of Asia* (1900); *The South African War* (1900); *From Sail to Steam* (1907); *Naval Administration and Warfare* (1908); *The Harcat W'than* (1909); and *Interest of America in International Conditions* (1910). His books on the influence of sea power on hist. struck a new note and soon attained the position of classics on the subject. The grip of the Brit. Navy during the First World War and its remorseless blockade of Germany fully substantiated M.'s theories while in the Second World War, the combined power of the Brit. and Amer. Navies supplied still further confirmation of the validity of M.'s teaching, subject to such modifications as may be necessary through the phenomenal development of air power.

Mahanadi, or **Mahanuddy**, riv. in India, rises in the Rajpur dist., Central Provs., and flows first N.E., then S.E., and finally through Orissa to the bay of Bengal, which it enters by numerous arms. It is

connected with sev. canals and is used for irrigation purposes. Its length is 520 m.

Mahanoy City, bor. of Schuylkill co., Pennsylvania, U.S.A., in a valley bounded on the S.E. by the Broad Mt., produces anthracite coal. Pop. 15,000.

Maharajah, see RAJAHI.

Mahatma, Sanskrit word used in theosophy, meaning 'great soul.' It has been given to members of a great brotherhood, persons who are believed to have attained to a higher state of evolution than that of average humanity and who possess the 'secret wisdom of theosophy.' They 'work ever for the service of their race with a perfect and selfless devotion, holding their high powers in trust for the common good, content to be without recognition, having power beyond all desires of the personal self' (Annie Besant). The M. is said by W. theosophists to be endowed with preternatural powers acquired by ascetic or astral means. The name was conferred, as a kind of title, on Gandhi by the illiterate, who looked upon him as a saint on account of his sincerity, asceticism, and simple eloquence. See also THEOSOPIHY.

Mahāvamsa, title of two celebrated books written in Pāli, and recording the hist. of Ceylon from its earliest period to the reign of Mahāsena, who d. in A.D. 302.

Mahavilly-Gunga, chief riv. in Ceylon, rises in the centre of the Is., flows N. past Kandy, and enters the Indian Ocean to the S. of Trincomalee.

Mahāvira, was the twenty-fourth and last deified saint of the Jains, and his name signifies 'great hero.' His story is told in the *Kalpa-Sutra* and the *Mahāvira-Charita*, two works held in great authority by the Jains. M. appears to have been a contemporary of Buddha.

Māhayāna, or the Great Vehicle, is the name given to a developed or widened form of Buddhism, but, as some say, a divergence altogether from 'official' Buddhism or the tradition of the Pāli canon. Buckmann pointed out that 'the picture of a vehicle was frequently used in Buddhism to symbolize the doctrine which bore the disciples across the world to the goal of Nirvāna.' When in N. India 'official' or the more original form of Buddhism underwent a schismatic change, being developed and widened, the new form was named M. or the Great Vehicle, the older form being named Hinayāna or the Little (or Low) Vehicle. The M. teaches the existence of many Bodhisattvas and develops both a theism and polytheism which are far removed from the original creed of Buddhism, and would seem to have been developed during the conversion of China to Buddhism between the second century B.C. and the eighth century A.D. According to some, however, the newer form was Hinayāna Buddhism, represented mainly in Ceylon, while the Māhayānists were the upholders of the older teaching who refused to deny the persisting reality of the man or soul, and after their expulsion by the Vibhajjavādins or Hinayānists

found their way to China and came later to be called Mahayānist. However that may be, it seems that neither form can claim to be compatible with official Buddhism; yet both can claim to have originated from the mandate set forth in N. India by the Gautama. The essential difference between the two is usually expressed as that between the ideal of *arahan* (saint) and that of the *bodhisattva* (enlightenment-being). In this context *aranship* means the man fading out, when consummated, into no-longer-man, whatever that may ultimately mean; *bodhisattva* means the man, in consummating, culminating as man, *as de jure*, if not *de facto* a Buddha. That this means hosts of Buddhas is merely a way of expressing the universal pervasion of man (see Rhys Davids, *Buddhism: its Birth and Dispersal*, 1912; revised ed. 1934). These new metaphysical theories, developed in the later schools of Buddhism, did not, in the opinion of some writers, contravene older ideals, but, rather, supplemented them by the doctrine that each individual was potentially a Buddha, and that he should aim both at attaining Nirvāṇa for himself and at becoming a Buddha, whereby he can preach to others. The metaphysical teaching of M. is known as the doctrine of the *void* or *śūnyatā*. It is found chiefly in the class of sūtras known as *Prajnaparamita* and is generally termed negativism. See also Monier-Williams, *Buddhism* (1890) and works by G. Hopkins, H. Hackmann, and D. T. Suzuki, 1907.

Mahdi ('he who is guided aright,' from Arab *hadd*, be guided), the expected Messiah of the Moslems, supposed to have been promised by Mohammed (though not mentioned in the Koran) to come and fill the world with righteousness, as the 'Imām' or caliph of God. Abdulla, a Persian Shia of the tenth century, much influenced by Zoroaster's doctrines, prophesied the coming of a future Muslim teacher, greater even than Mohammed, who should never die. This teaching was accepted by the sect of Ismailis, from whom arose the first caliph of the Fatimite dynasty in N. Africa. 'Obaid-Allah al-mahdi' (909-33). Other fanatics who claimed to be 'al-mahdi' and waged religious wars in different parts were the third Abbasid caliph (775-c.84), the descendants of 'Alī, one of whom disappeared mysteriously in 879, and the Dongolero Mohammed Ahmed (c. 1843-45) who attempted to conquer the E. Sudan. He made El-'Obeid his cap. (1883), Khartoum was taken (1885), and Gordon killed. The empire was overthrown by Anglo-Egyptian forces, and Mohammed's successor crushed by the Brit. expedition to Dongola (1896), and by Kitchener's victories at Atbara and Omdurman (1898). See J. Darmesteter, *The Mahdi, Past and Present*, 1885; Sir F. Wingate, *Mahdism and the Egyptian Sudan*, 1891; B. Burleigh, *Sirdar and Khalifa*, 1898; and R. A. Hermann, *The Mahdi of Allah*, 1931.

Mahdia (Mahdiya, Mahediya), port of Tunis situated at the end of a rocky

promontory, some 47 m. by rail S.E. of Suse and 100 m. S. of Kairwan. There is accommodation in the port only for small boats, steamers having to lie at anchor in the roadstead 400 yds. outside the port. M. is on the site of a Phœnician settlement and was founded by 'Obaid Allāh in A.H. 303 (A.D. 912), the first Fatimite caliph, who made it his cap. It became a place of some importance owing to its fortifications, strategic situation, and trade. When the seat of the Fatimite emperor was removed to Egypt, the Zirides, a branch of the Sanhaja Berbers, ruled as their nominal lieutenants at M. The Zirite dynasty was eventually extinguished by Roger I. of Sicily, who captured M. in 1148 and established his authority over all the Tunisian coast. The Normans held the place for a short time but were driven out again by Almohades (q.v.). A corsair, Dragut, also made it his cap. but was expelled by the Spaniards, who dismantled the fortifications (c. 1575). Pop. 9000.

Mahe: 1. Tn. on the Malabar coast of India, 33 m. N.N.W. of Calicut, belonging to the Fr. Pop., with adjoining dist., 14,700. 2. Largest is. of the Seychelles, in the Indian Ocean, 17 m. long and covered with high granite mts. The chief tn. is Port Victoria. Area 554 sq. m.

Maheshwar, tn. in Indore, 'Madhya Bharat, India, stands on the N. bank of the Narmada R.; it is of great antiquity, and has many historical associations. Manufs. silk and cotton. Pop. 10,000.

Mahler, Gustav (1860-1911), Austrian composer and conductor, b. at Kalitz, Bohemia. He won the conservatoire prize at Vienna, 1873, and then studied philosophy at the univ. His first completed work was *Das klagende Lied* (pub. 1899), a cantata, the poem of which was written by him in 1878. He composed his first vol. of songs in 1883, in which year he also began his first symphony. He adapted Weber's opera fragment *The Three Pintos*, which was performed in Leipzig in 1888. M. held the posts of director of Royal Opera in Budapest, 1888, and of Vienna Opera in 1897—the greatest period of the Vienna Opera House. He went to America in 1907, completing there his *Lied von der Erde* based on Chinese poems. His works include ten symphonies (the last unfinished), two song-cycles, and many other songs, including five to words by Rückert and settings from *Des Knaben Wunderhorn*. See P. Bekker, *Mahler's Symphonies*, 1921; also lives by G. Adler, 1916; R. Mengelberg, 1923; R. Specht, 1905, 1925; and A. Mahler, *Memories and Letters* (Eng. trans. 1916).

Mahmud I. (1696-1754), sultan of Turkey, the son of Mustafa II. He ascended the throne in 1730 after the deposition of his uncle, Ahmed III., and continued the war against Nadir, Shah of Persia, but with little success, making peace in 1736. He then entered upon a war with Russia and lost Ochakov in 1737. The Austrians, the allies of Russia, met with a serious defeat at Krotzka, and peace was made at Belgrade in 1740.

Mahmud II (1785-1839), sultan of Turkey, the son of Abd ul Hamid I, and the successor of his brother Mustafa IV, in 1808. The war with Russia was concluded four years after his accession by the treaty of Bucharest. In 1821 the war of Gk. Independence broke out, and Gk. sailors of the Turkish Navy mutinied. After the battle of Navarino Russia declared war (1827), and forced M. to sign the peace of Adrianople (1829). In order to suppress his upstart vassal, Mehmet Ali, the pasha of Egypt, he secured a Russian alliance in 1833, and ordered the invasion of Syria in 1839, and died before the news of his defeat reached him.

Mahmud of Ghazni (999-1030) powerful

popular than formerly, but it is still used for cabinet work and aeroplane propellers. Honduras M. and Mexican M. come from an allied species, both grow also in India. Species of *Corocarpus* are known in N. America as mt. M. Substitutes for M. include the somewhat coarse wood of *Persea indica* of Madras, the wood of *Podocarpus totara*, the M. or Totara pine of New Zealand, the wood of several species of eucalyptus notably the blue gum (*E. globulus*) and *E. resinifera*. The Indian redwood (*Soyimida febrifuga*) is sometimes called the Indian M. *Ahaya senegalensis* is the African M. and the woods are very similar. The Sp. cedar (*Cedrella odorata*) and Australian cedar (*C. australis*) are



Disc of Education Gulf Coast

MAHOGANY LOGS IN WEST AFRICA

ruler of Afghanistan and the first Imamoonach to assume the title of sultan. His father Sabuktigin, died in 997, and left his throne to a younger son Ismail Mahmud, who was governor of Nishapur. He hastened to Ghazni, deposed his brother and seized the throne. He repeatedly made incursions into India (1001, 1006, 1007, and 1009), and carried away much booty. He also subdued Ghor Turkistan, and Khwarizm (Khiva), and extended his kingdom as far as Samarkand on the N. and Kurdistan on the W.

Mahoba, tn in the Hamirpur dist., United Prov., India 87 m SSW of Cawnpore. It has interesting architectural antiquities. Pop. 11,000.

Mahogany, fragrant aromatic wood of *Swietenia mahagoni*, a large central Amer. and Cuban tree. The heartwood is close-grained, hard, and durable, and takes a fine polish, and its production is a very important industry not only in its native ter., but also in India, where it has been successfully introduced and extensively planted. M. furniture appears to be less

also called M. White M. or Prima Vera (*Labeana Donnell Smithii*) resembles M. except in colour. Of the Australian Eucalypts *E. cotyroides* or swamp M. and *E. resinifera* a red wood, also resemble M. very closely, the latter being one of the first to be exported from Australia as timber. The commercial quality of M. is indicated by the markings in the wood: *watered* (transverse wavy lines), *berry* (longitudinal lines), *fastooned* (wreath-like), *whirl cord* (whirl lines), etc. The commercial names are the Sp. (W. Indian), the Honduras and the Mexican.

Mohomedanism, see MOHAMMEDANISM

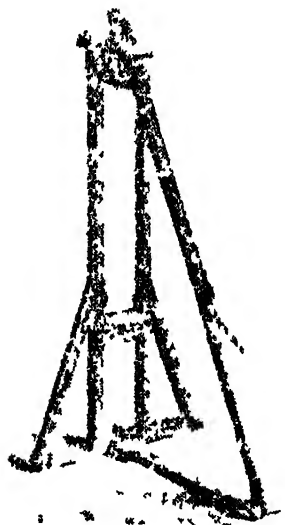
Mahomet, see MOHAMMAD

Mahon, see PORT MAHON

Mahonia, or Ash-barberry, genus of the Berberidaceae family and closely allied to the barberry, consisting of elegant evergreen shrubs, with pinnate leaves and yellow flowers. There are over forty species and they are found mostly in N. America, Spain, Mexico, and China. Several kinds are cultivated in gardens for their ornamental foliage and flowers,

especially the Jap M (*M. Japonica*), indigenous to China. The fruits of M., like those of the barberry, are frequently insipid and harsh.

Mahony, Francis Sylvester, known as **Father Prout** (1801-66), a humorist entered the order of Jesuits, but abandoned the priesthood in 1832 for literature and became a contributor to *Fraser's Magazine*. His best work contributed originally to that periodical, is the *Reliques of Father Prout* (1846).



Society of Antiquaries of Scotland

MAIDEN

Mahrattas, or **Marathas**, term commonly applied to a mixed race, mainly of Hindu origin, inhabiting Central India, chiefly in the states of Baroda, Indore, and Gwalior but now used to designate all Marathi speaking Hindus in India. They are first mentioned in the seventeenth century as robbers and rebels who rose against the Mogul emperor at Delhi under the leadership of Shivaji, a Hindu adventurer, who proclaimed himself the chief. He was succeeded by his son, Sambaji (1690), who endeavoured to carry out his father's policy, but nine years later he fell into the hands of his enemy, Aurangzeb(e), who put him to death. For over a century they waged incessant war against the Mogul dynasty with varying success but at length they sustained a heavy defeat at Paniput in 1761 at the hands of Ahmed Shah Abdali, the amir of Afghanistan. Their power was eventually broken by the Brit in 1818. The M. are an active and hardy people, and devout worshippers of Brahma. Their language is akin to

Gujarati and Sindhi and their literature is abundant. Marathi speakers now number about 20,000,000. See also **INDIA History**.

Mahren, see **MORAVIA**.

Mährisch-Schönberg, see **STUMPFEN**.
Mai, Angelo, Cardinal (1782-1854), Italian antiquary and philologist, b. in the vil. of Schignano in Lombardy, and educated in various Jesuit estates. He became custodian of the Ambrosian Library, Milan and discovered many forgotten works chiefly from palimpsests. Pope Pius VII. gave him the charge of the Vatican Library, which resulted in the pub. of the famous *Codex Vaticanus*.

Maia, in Grk. mythology, the daughter of Atlas and Pleione was the eldest of the Pleiades and the most beautiful of the seven sisters. In a grotto on Mt. Cyllene M. became the mother of Hermes. The Romans identified her with an old It. goddess of spring.

Maida Vale, residential suburb in the N.W. of London adjoining Kilburn, in the bor. of Edgware.

Maiden, early form of guillotine. An axe was fixed in a frame about 10 ft. high, so that it could move upwards in grooves. When the axe had reached the topmost point it was still in place and fell on the victim's neck. It was first used at the execution of the minor agents employed to murder Elizabeth (1561). It was last used in 1710 and is displayed in the museum of the Society of Antiquaries of Scotland, in Edinburgh.

Maiden Castle, magnificent prehistoric earthwork near Dorchester, Dorset, was a Neolithic settlement with an immense long barrow. It later became a large hill city of the Early Iron Age with a multiple defence system. About A.D. 70 its townsfolk were transferred to the Roman Dorchester and the imposing earthwork was abandoned.

Maidenhair Fern, or *Adiantum Capillus Veneris*, pretty Bilt. fern found in moist, warm situations. It bears its fructification (sporangia containing spores) in short marginal patches on the edges of the subdiv. of the fronds, which are in turn to protect it. It grows well in pots where frost is excluded. M. grass (*Briza media*) is more commonly called quaking grass. M. tree is *Salsburgia adiantifolia*.

Maidenhair Tree, see **GINKGO**.

Maidenhead, municipal bor. in Berkshire, England, beautifully situated on the r.b. of the Thames 28 m. W. of London. It is connected with Taplow on the l.b. of the Thames by a seven-arched bridge. The town is very old and in 1399 was the scene of a contest between the armies of Henry IV. and Richard II. There are many commons and manorial wastes near M. which have been presented to the National Trust. These include Cook Marsh and Winter Hill, with good views towards the Chilterns, Cookham Dean Common and other commons between M. and Marlow with an area of over 600 ac., one containing the remains of a Roman camp known as Robin Hood's Arbour, and Cookham Moor, 3 m. N. of M. Pop. 26,000.

Maid of Norway, see MARGARET.

Maid of Honour are the immediate attendants upon the queen, under the direction of the mistress of the robes. A queen regnant has eight M. of H., a queen consort four. They are given the courtesy title of 'Honourable,' accompany Her Majesty in turn on all occasions, and take precedence next after the daughters of barons.

Maidstone (A.-S. *Mengaid-* or *Medwigston*, i.e. the city of the Medway). (*Blædesstana* is given as the earliest form and 'maiden's stone' as the probable meaning in the *Oxford English Place Names*), co. tn. of Kent, 41 m. S.E. of London by railway and 34 m. by road. A municipal bor., assize and mkt. tn. possessing its own court of quarter sessions. It contains among numerous public buildings a tn. hall, co. hall, co. mental hospital, co. ophthalmic hospital, W. Kent General Hospital, and a museum of local antiquities. There is a sixteenth-century grammar school. It is the depot tn. of the Queen's Own Royal W. Kent Regiment. On the banks of the R. Medway is a group of noteworthy auct. buildings, including the par. church of All Saints, the old college, the archbishop's palace, and the tithe barn. The latter building houses a unique collection of auct. carriages; the tn. possesses sev. parks, including the picturesque Moto Park of over 400 ac. Industries including paper-making, brewing, agric. and electrical engineering, fruit canning, printing, and confectionery. Around the tn. are extensive fruit orchards and hop gardens. Some 337 properties were destroyed or severely damaged and 6,381 were damaged as a result of enemy action during the Second World War. The tn. was shelled by long-range guns in France, but only minor damage was caused. Pop. (1931) 42,300; (1947 (st.)) 49,500.

Maidu, name of a group of Indian tribes, formerly occupying the N.E. of California, U.S.A. A few are still found in this region, while some live near the Round Valley reservation. Their chief occupation is basket weaving. See *Lauren Bride, Tribes of California*, 1877, and R. B. Dixon, *The Northern Maidu*, Amer. Museum of Natural Hist. (vol. xvii.), 1905.

Maidu Language, see under NORTH AMERICAN NATIVE LANGUAGES, *Pacific Areas*.

Malgre, see MEAGRE.

Malides, or **Malans**, sea spiders, with the first pair of feet much larger than the second pair (macropodan). The carapace is much longer than it is wide.

Malikop, tn. of the Adyghe autonomous region of the S.S.F.S.R., on the R. Bielala, 65 m. S.E. of Krasnodar. It is the centre of an oil-producing dist. and a pipe-line links it with Tuzpse on the Black Sea. Pop. 67,300.

Malikov, Apollon' Nikolaevich (1821-1907), Russian poet, b. of an old Russian noble family. He was a student at the univ. of St. Petersburg. He soon achieved celebrity in the literary circles of the cap., and pub. a book of verso

showing the influence of his Gk. and Rom. studies. Later he became intensely nationalistic, looking upon Russians as a chosen people. For decades he served as a censor. The fruit of his thoughts about Russia was embodied in his tragedy *Two Worlds* in which he drew the contrast between E. and W., between Paganism and Christianity.

Mail Armour, fabric of meshes used as a defence against weapons; chain-mail was composed of interlinked rings of metal, and was introduced into the Rom. Army in imitation of the Gauls, and much worn under the later empire, and also in the twelfth and thirteenth centuries. It was very good for its purpose, a 'coat of mail' being marvellously hard to penetrate, but was very expensive to manuf. Later the word mail was used for any kind of armour. See ARMS, ARMOUR.

Mail Coaches, see COACH AND COACHING.

Maillois, Aristide Joseph Bonaventura (1861-1944), Fr. sculptor, b. at Banyuls-sur-Mer in Roussillon, son of a cloth merchant and vineyard owner. Educated at the École des Beaux Arts he began as a palster and then took up tapestry work. In 1900 he taught himself sculpture. With his ceramics he attracted a Paris dealer, Vollard, who cast them in bronze; these sold well and M. began to exhibit in 1902. Attention abroad was attracted to him by his large figures in stone and bronze. Between 1910 and 1914 he was engaged in producing studies for the memorial to Cézanne at Aix-en-Provence. He owed much to Count Harry Kessler, for whose Cranch Press he executed wood engravings. After the First World War his large works included the war memorial for his native Banyuls. As a sculptor his style, temperament, and conception differed fundamentally from that of the great romantic master, Rodin. Where Rodin employed structural beauty in the abstract, M. pursued the classic structure, and where Brancusi and Archipenko concentrated on simplified form, setting in motion revolutionary changes, M. belonged definitely to a period that is past; but by his own quality of workmanship, he had become part of the hierarchy of sculptors whose reputation will endure. He was the first to revolt against the cloying idealism that mars Rodin's pursuit of the naturalistic. Nothing could be more subtly achieved than many of M.'s standing or reclining terra-cottas, but nothing could be more enchanting than their simplicity. They have the directness and grace of Tanagra figurines, and the rustic beauty of the S. countryside where he spent most of his days. Among his best works is 'Ja Douleur,' a monument to the dead, at Céret, and 'Pomone,' a bronze statuette, and the great series of illustrations of Virgil's *Ecliques* which he executed for Kessler. See studies by O. Mirbeau, 1921; M. Denis, 1925; J. Rowald, 1939; and M. Bouvier, 1945.

Maim, By the old law of England he that maimed any man, whereby he lost any part of his body, was sentenced to lose the like part of his own body. This relic

of the *lex talionis* (q.v.) for long survived in Sweden, but has now disappeared from the criminal codes of all civilised nations. At the common law (q.v.), it was only the loss of those limbs or members which might be useful to a man in fight that amounted to maiming, or mayhem, as it was called. It is a felony, punishable by penal servitude to the extent of life, to wound, shoot at, or cause grievous bodily harm to a person with intent to M. him. To kill, M., or wound cattle is a felony. To M. or wound any dog, bird, or beast, not being cattle, is punishable summarily.

Maimachin, vil. of Mongolia, situated on the Russian frontier, opposite Kiakhta, an *entrepôt* of the Chinese trade with Russia.

Maimana, dist. and tn. in Afghanistan, Asia, stands 2860 ft. above the sea. The tn. is large, but has no important industries, its only manufs. being carpets. The pop. is considerably mixed, the largest proportion being Afghans.

Maimand, small tn. in the prov. of Fars, Persia, is famed for its manuf. of rose water, and noted for its almonds. Pop. 5000.

Maimansingh, see MYMENSINGH.

Maimbourg, Louis (1610-86), Fr. scholar, b. at Nancy, entered the Jesuit order and studied theology at Rome. On his return to France, he was employed as a preacher. Having pub. in 1685, *Traité historique de l'établissement et des prérogatives de l'Eglise de Rome*, a work in which he defended the principles of the Gallican Church, the pope caused him to be expelled from the Jesuit order. He also wrote a hist. of the pontificate of St. Gregory (1686), and hist. of Arianism (1673), Lutheranism (1680), and Calvinism (1682). A collected ed. of his works was pub. in Paris in 14 vols. (1668-87).

Maimon, Salomon (1754-1800), Ger. philosopher, b. of Jewish parentage near Mir, in Polish Lithuania. He was trained in the study of Talmud to become a rabbi, but went to Berlin to study medicine, where he was attracted by the philosophy of Maimonides. In 1770 he pub. a commentary on that philosopher's *Mohr Nebuchim* (or *Nebuchim*). His *Vernunft über die Transzendentalphilosophie*, pub. in 1790, estab. his reputation, and secured his friendship with such men as Moses Mendelssohn and Kant. His philosophy is based on that of Kant, but he owes a large debt to Hume. His *Autobiography* was pub. in 1792 (Eng. trans. by J. C. Murray, 1888). See J. Fromer, *Salomon Maimons Lebensgeschichte*, 1911, and A. Zuhersky, *Salomon Maimon und der kritische Idealismus*, 1925; also lives by S. J. Wolff, 1813; J. H. Witte, 1876; and F. Kuntze, 1912.

Maimonides, or more properly **Moses Ben Maimon** ('the light of Israel') (1135-1204), one of the most celebrated of the Jewish rabbis, a theologian, philosopher, and physician, b. at Cordova in Spain, son of a local judge of the Jewish community. Owing to the persecutions of the Jews he removed to Fez in 1160, but afterwards travelled to Jerusalem, ultimately settling

near Cairo, where he became physician to the sultan, and superintendent to the Jewish communities. He won such fame as a physician that the ruler of Palestine, the lieutenant of Saladin, made him physician of his court and of Saladin's family. It is said that he even received an invitation to become the physician of Richard Cœur de Lion during his crusade, but that M. declined as he had grown weary of wandering. His three great works are *The Luminary*, the *Mishneh Torah* (1180) and the *Mohr Nebuchim*. His first book, *The Luminary*, is an attempt to illuminate the construction and contents of the Mishna (q.v.) (Judah's code), but it also shed light on other matters—physics, astronomy, and mathematics. His *Thirteen Dogmas* soon became, and have remained, the most popular definition of orthodox Judaism. Until his time the laws of the rabbis had never been scientifically arranged by subjects. The work of co-ordinating the laws was accomplished by M. in the *Mishneh Torah*, literally 'Repetition of the Law,' which despite criticism, has remained the most distinguished code of Jewish law. His crowning achievement was his philosophical work *Mohr Nebuchim* or 'Teacher of the Perplexed,' originally written in Arabic, trans. into Heb. by his disciple, Samuel Aben Tibbon, and into Lat. by Justinian, bishop of Nablus (Paris, 1520), and by the younger Buxtorf (Basel, 1629), with a preface, which contains an account of the life of M.; and *Pad Hazakah* or 'The Strong Hand,' which contains a complete digest of the Heb. laws. The best ed. is that printed at Amsterdam (1702, 4 vols.). M. founded a college at Alexandria for the instruction of his countrymen, in which he delivered lectures on philosophy and the Jewish laws. A M. fund was instituted by the Heb. Univ. of Palestine in 1935, in the form of an endowment for Jewish research and science. See A. Rohner, *Das Schöpfungsproblem bei Moses Maimonides*, Albert Magnus, and Thomas von Aquin, 1913, and S. Sarachek, *Faith and Reason*, 1935; also studies by L. C. Lévi, 1911, and J. Munz, 1912.

Main, riv. of Germany, the largest affluent the Rhine receives from the right, is formed by the union of two branches, the White and Red M., 4 m. below Kulmbach, in Bavaria. The M. has a winding westward course 310 m. in length to the Rhine, into which it falls at Mainz. It is navigable for the last 220 m. The printrs., on its banks, are Schweinfurt, Würzburg, Aschaffenburg, Offenbach, and Frankfurt-on-M., sev. of which (especially Schweinfurt on account of its ball-bearing factories) suffered considerable damage from air raids in the Second World War. The riv. is linked with the Danube by the M.-Danube Canal (Ludwigskanal) from Bamberg to Kohlheim, navigable for barges of 1500 tons.

Maine, Sir Henry James Sumner (1822-1888), Eng. jurist and legal historian, eldest son of James M., M.P., of Kelso, Roxburgh, b. in India. Educated at Christ's Hospital and Pembroke College,

Cambridge; in 1847 he was made regius prof. of civil law at Cambridge, and in 1852 reader in Rom. law and jurisprudence for the Inns of Court; called to the Bar in 1850. He went to India as legal member of the Indian Council, which post he held with distinction for seven years. Appointed in 1869 corpus prof. of jurisprudence at Oxford; became a bench of the Middle Temple in 1881. His best known work is *Ancient Law* (1861; now ed. by Sir F. Pollock, 1930). He also wrote *Village Communities in East and West* (1871, 1890); *The Early History of Institutions* (1875, 1890); *Early Law and Custom* (1883, 1890), *Popular Government* (1885); and *International Law* (1888). See J. Hutchinson, *Notable Middle Templars*, 1902; and W. S. Holdsworth, *Some Masters of English Law*, 1938.

Maine, most north-easterly state of the U.S.A., known as the Pine Tree State, bounded N.E., N., and N.W. by Canada, W. by New Hampshire, and S.E. by the gulf of M. Owing to the beautiful climate and fine scenery, it contains more summer resorts than any other state. So greatly is the coast indented that though only some 250 m. by straight measure its windings make the actual length 2486 m. There are 1300 wooded is., among them Grand Manan Is. and Mt. Desert containing Acadia National Park. M. was at one time overrun by the Laurentian glacier, and as a result there are innumerable lakes affording excellent fishing. The N. part of the state is hilly, the highest peak being Mt. Katahdin (5273 ft.). The prin. rivs. are the St. John, Kennebec, Androscoggin, and Penobscot; their waters are utilized as a source of power. Moose, caribou, and deer abound, so that there are good hunting and shooting. A considerable part of the state is unfit for cultivation, but in the valleys the soil is good, and farming, especially dairy and poultry farming, and market gardening are carried on. M. has the largest potato output in the U.S.A.; oats, hay, and apples are also grown, and horses, cattle, sheep, and pigs are reared. Granite, limestone, feldspar, and slate are quarried. Fishing and the canning of fish, and lumber are important industries, the latter, there being wood-pulp and paper mills, being the chief manufacturing product: 110,000 ac. of standing timber were destroyed in a fire in 1947, and M. was declared a distressed area. Other manufs. are cotton and woollen goods, and boots and shoes. The chief tns. are Portland, the main port (73,600); Lewiston (38,600); Bangor (29,800); Auburn (19,800); Biddeford (19,700), and Augusta, the cap. (19,300). The state is governed by a Senate of thirty-three members and a House of Representatives of 151 members, both elected for two years; it sends two senators and three representatives to Congress. There is a state univ. at Orono, Bowdoin College (q.v.) at Brunswick, Bates College at Lewiston, and Colby College at Waterville. Communications are good, there being excellent roads, some 2750 m. of railway, steam and electric, which connects

with Canadian lines, and forty-seven airports.

Sir Ferdinando Gorges, regarded as the founder of M., was granted land S. of the Kennebec R. in 1622. During the Eng. Commonwealth, however, Massachusetts took possession of the dist. and retained it until 1820, when M. was admitted to the Union as a separate state. The boundary was long a cause of dispute first between England and France, then Britain and U.S.A. It was finally settled in 1842 by the Webster-Ashburton Treaty. Area 33,215 sq. m. (including 2175 of water); pop. 911,000.

See Maine Historical Society's Collections and Baxter MSS., 46 vols. (Portland), 1865-1916; L. L. Hubbard, *Woods and Lakes of Maine*, 1883; J. S. C. Abbott, *History of Maine* (2nd ed.), 1892; W. Macdonald, *The Government of Maine*, 1902; H. S. Burrage, *Beginnings of Colonial Maine*, 1914; L. C. Hatch, *Maine: a History*, 1919; G. Starkie, *Maine, its History, Resources, and Government*, 1930; and Federal Writers' Project, *Maine: a Guide 'Down East'*, 1937.

Maine, old Fr. prov. It formed with Perche a military gov. during the sixteenth century, and since 1790 has been merged in the depts. of Sarthe and Mayenne, of which the caps. are Le Mans and Laval. In 1835 the bishoprics of Le Mans and Laval were separated. Until the end of the ninth century the hist. of M. can only be traced through that of the bishops of Le Mans. The first hereditary count of M. was Roger (c. 892 c. 898). In 1110 M. formed part of Anjou, but in 1154 it became an Eng. possession under Henry Plantagenet. In 1204 it again passed into the hands of the Fr., and in 1216 was given to the count of Provence. In 1328 it once more passed to the crown of France, but was given to Louis, the second son of King John II., in 1356. In 1425 it was taken by the Eng. and lost again in 1448, returning permanently to the crown of France in 1451.

Maine de Biran (real name Maine François Pierre Gonthier de Biran) (1766-1824). Fr. philosopher, b. at Bergerac, son of a physician. Early devoted himself to the study of psychology and continued to do so whenever time allowed, leading a secluded life during the revolution on his paternal estate at Bergerac. But after the Reign of Terror he took some part in political affairs, becoming, in 1797, a member of the Council of Five Hundred. He was subsequently excluded from that body as a suspected royalist. In 1816 he became councillor of state. His philosophical works include the essay *Influence de l'habitude* (1802); *L'aperception immédiate* (1807); and *Examen des leçons de philosophie de Laromiguière* (1817). The first named revealed the influence of Locke and Condillac's sensualist philosophy, but he subsequently concluded that Condillac's notion of passive receptivity in the formation of habits as the sole source of conscious experience was erroneous in both fact and method. He developed the genetic method and concentrated on the psychological aspect of

experience, progressing from intellectualist to mystical theosophist. His chief works, which showed both metaphysical subtlety and great originality, were not pub. in his lifetime, but an incomplete collection, by Victor Cousin, appeared in 1834 and 1841, new ed. by P. Tisserand, 1920 ff. See A. Lang, *Maine de Biran und die neuere Philosophie* (Cologne), 1901; and monographs by E. Naville, 1874; A. Kähmann, 1901; M. Couailhac, 1905; A. de la Valette-Monbrun, 1914; and G. Feraud, 1938.

Maine-et-Loire, dept. in France, formed out of the old prov. of Anjou, and named from its two prin. rivs. the Maine and the Loire, is bounded N. by the depts of Mayenne and Sarthe, E. by Indre-et-Loire, S. by the depts. of Vienne, Deux-Sèvres, and Vendée, and W. by Loire-Inférieure. It has four arrons., Angers, Cholet, Saumur, and Segré. Area 2810 sq. m. Pop. 496,068. The dept. presents a pleasing variety of low hills, mostly planted with vines (the Saumur vintage of wine is well known), and of plains, which are very fertile, growing cereals, hemp, and beet. There are granite, freestone, and slate quarries, and coal is mined near Chalonnes. The dept. belongs entirely to the basin of the Loire, which riv. crosses it from E. to W., and forms in its course a very beautiful ls. The N. dists. are drained by the Mayenne and its feeder the Oudon, by the Sarthe and its feeder the Loire, and by the Authlon. The Mayenne and the Sarthe unite above Angers, and form the Maine, which after a course of about 5 m. falls into the Loire S. by W. of Angers, the cap.

Mainland, Orkney Is., see POMONA.

Mainotes, The, inhab. of the Maina peninsula, S. Greece, are sometimes regarded as descendants of the anc. Spartans, whose land they now occupy, but more probably they are of Slavonic origin. They number 60,000. Formerly independent, they fought for the liberty of Greece, but after the death of their leader Petros Mavromicheli their independence was destroyed.

Mainpuri, dist. of the United Provs., India. It has an area of 1679 sq. m. and is mainly an agric. dist., reasonably well irrigated; but has few arts or manufs. beyond the making of glass bangles, wood-carving, and cotton-spinning. Its chief exports are wheat and other grains, oil-seeds, hides, and cotton. The chief tn., of the same name, has a pop. of about 19,000.

Maintenance, in criminal law, means the officious intermeddling in a lawsuit that in no way concerns one, by *maintaining* or assisting either party with money or other material aid to prosecute or defend it. Champerty (q.v.) is a species of M. M. is a misdemeanour punishable by fine and imprisonment. Prosecutions are never heard of, owing to the great difficulty of proving a manifestly improper motive in any particular case. It is not M. to help a poor litigant out of charity, and as assistance, pecuniary or otherwise, is always justifiable where one has an interest in the subject-matter in dispute, as that of a

remainderman (q.v.), or a superior landlord, though not actually a party to the action. Apparently it is never M. to assist another in a *criminal* prosecution or defence. The term originates in the feudal practice by which lesser persons wore the badge of the greater barons and fought in their wars, in return for protection and M. in quarrels. Statutes against the practice, which gave independent power to the barons, were virtually disregarded until Henry VII. insisted upon their observance.

Maintenance, Cap of, in heraldry, a cap of crimson velvet turned up with ermine which is carried before a Brit. sovereign at his coronation, opening of Parliament, or other state occasion, by the hereditary bearer, the marquess of Winchester. A similar C. of M., also called 'cap of dignity,' is the privilege of certain noble families. The ducal cap has two peaks behind, and is surmounted with the family crest.



Vicomtesse de Rense

MADAME DE MAINTENON
Painting by H. Rigaud.

Maintenon, Françoise d'Aubigné, Marquise de (1631-1719), daughter of Constant d'Aubigné and of Jeanne de Cardillac, and granddaughter of Théodore Agrippa d'Aubigné. Françoise was b. in the prison of Niort, where her father was then confined. On obtaining his release, he went (1639) with his wife and daughter to Martinique, where he d. in 1645. Françoise and her mother then returned to France, and on her mother's death, her father's sisters placed her in a convent, where, at the age of fourteen, she was reluctantly converted to Rom. Catholicism. When she was sixteen she became acquainted with the poet Scarron, whom she married. She now lived in the midst of the refined and intellectual

society which frequented the house of the poet. He d. in 1660, and four years afterwards she was entrusted with the education of the two sons whom Mme de Montespan had borne to Louis XIV. and now becoming acquainted with the king soon fascinated him and exercised an extraordinary ascendancy over him. In 1684, after the death of the queen, Louis privately married her, and she had much influence in the selection of ministers and generals. When he d. in 1715, she retired to the former abbey of St. Cyr, and here she d. See lives by C. C. Dyson, 1909; Mme Saint-René Taillandier, 1920; and H. C. Barnard, 1934; also M. Daniellou, *Madame de Maintenon, éducatrice*, 1946.

Maintenon, tn. in the dept. of Eure-et-Loire, France. 10 m. N.W. of Chartres. There is a seventeenth-century aqueduct, and a château of the fifteenth to the seventeenth century, both damaged. The tn. suffered some destruction in the Second World War. Pop. 1793.

Mainz, or **Mayence**, anct. city and fortress of the Ger. Empire, in the Rhineland-Palatinate, 20 m. W.S.W. of Frankfurt. It is situated on the l. b. of the Rhine, just below the influx of the Main, and is connected with Kassel on the opposite side by a fine modern bridge. In the centre of the tn. stands the cathedral, which dates from the thirteenth century. Other notable buildings are the old electoral palace, containing important public collections and a library, the Romano-Ger. museum, gallery, and church of St. Stephen (1257-1328). M. is an important riv. port. Furniture, pianos, machinery, chemicals, leather goods, soap, etc., are manufactured. It manufs. sparkling wine and is the headquarters of the Rhine wine trade. M. (anct. *Maguntiacum*) was founded in 13 B.C. by Drusus, and there are sev. interesting Rom. remains. After the fall of the Rom. Empire, the fort suffered from attacks by Vandals and Huns, but regained its strength by the thirteenth century, when it was the head of a confederacy of Rhenish cities. Gutenberg (q.v.) made it famous in the fifteenth century as a centre of book printing. The small size of the type of the *Mainz Indulgence* is the first evidence of the use of metal matrices and hand moulds for casting type. The detailed studies, e.g. of Zedler and Winslow, tend to limit Gutenberg's invention to these mechanisms but they do not destroy the claim of M. to be the bp. of typography. It was captured by the Fr. in 1797, and formally ceded to France by the treaty of Lunéville (1801). It was restored to Germany by the treaty of Paris (1814), and was assigned to Hesse-Darmstadt in 1816. The outer fortifications were removed in 1920. During the Fr. Army's occupation of the Rhine after the First World War, M. was the headquarters of the commander-in-chief.

M. was involved in the W. front campaign in March 1945. M. itself being reached by the Allies on the 20th. So swift and heavy were the blows of the Amer. Third Army across the lower

Moselle and the W. bank of the Rhine that the Gers. were too disorganized to defend the E. bank. In these circumstances the Amer. Seventh Army, exploiting the adventurous seizure of the Remagen bridgehead, crossed the Rhine between M. and Mannheim. While the Third Army crossed near Oppenheim, to the S. of M. (22-24 March). Darmstadt, Frankfurt, Aschaffenburg, Marburg, and other large tns. fell in swift succession as the war approached its closing days. See further under WESTERN FRONT IN SECOND WORLD WAR. See G. J. Holler, *Das goldene Mainz und seine Geschichte* (vol. 1.), 1910; A. Trönnier and W. Haefele, *Mainz die Gutenbergstadt, 1410-1940*, 1940. Pop. 159,000.

Mair, John, see MAJOR, JOHN.

Maisky, Ivan Mikhailovich (b. 1881), Russian diplomatist and writer on political subjects, educated at a secondary school in Omsk and at St. Petersburg and Munich Univs. Began as a journalist and then entered the Soviet diplomatic service, being chief of the press dept., in the foreign office, Moscow (1922), Counsellor at the Soviet Embassy, London, 1925-27. Minister to Finland, 1929-32. Amb. of U.S.S.R. in Great Britain, 1932-43, in which capacity he greatly improved Anglo-Russian relations. Assistant people's commissar for foreign affairs, U.S.S.R., 1943-46. He negotiated a trade agreement with Great Britain in 1934 and the Anglo-Soviet Naval Treaty of 1937. He also negotiated pacts of mutual assistance with Finland, Poland, and Czechoslovakia at various times between 1932 and 1941. In 1942 he concluded agreements with Canada on the estab. of diplomatic and consular relations. He wrote *Germany and the War* (1916); *Political Germany* (1917); *Modern Mongolia* (1927); *Foreign Policy of the R.S.F.S.R.* (1922); and *Before the Storm* (1944).

Maisonneuve, Paul de Chomedey, Sieur de (d. 1676), Fr. colonial missionary and first governor of Montreal. A veteran warrior, imbued with the spirit of the early crusaders, he was chosen to be the leader of a body of devout Fr. men and women whose mission in the Iroquois country led to the founding of Montreal. With a party of only forty men and four women, M. left Quebec on May 8, 1642, in a pinnace, a barge, and two row-boats, and ten days later reached the is. of Montreal, where he preached a sermon and raised an altar. M. had been warned at Quebec to abandon the plan, but he declared that his followers would go on even 'if every tree were an Iroquois.' Though the beginnings of Montreal were full of peril, M. and his co-founders refused to admit defeat. He was governor of the settlement of Montreal for twenty-two years and proved a tower of strength. Among his associates was Jeanne Mance, under whom was founded the first hospital in Montreal, to which she fearlessly devoted the rest of her life. A decade later came Marguerite Bourgeoys, who founded the first school in Montreal. The tn. of M., named after

the sieur de M., is a manufacturing centre adjoining the city of Montreal.

Maisons-Alfort, tn. in the dept. of Seine, France, on the Marne, 3 m. S.E. of Paris. It has a veterinary school founded by Bourgelat in 1766. Pop. 36,400.

Maisons-Laffitte, tn. in the dept. of Seine-et-Oise, France, on the l. b. of the Seine, 10 m. N. of Versailles. Pop. 13,500.

Maistre, Joseph Marie, Comte de (1754-1821), Fr. publicist and philosopher, b. at Chambéry, son of Comte François-Xavier de M., president of the Senate of Savoy. In 1792, on the approach of the republican armies, he fled with his prince, the king of Sardinia, but a year later he returned to Chambéry. Forced to leave Savoy, he settled at Lausanne, where he pub. his *Lettres d'un royaliste sarvoisien à ses compatriotes* and the *Adresse de quelques parents des militaires sarvoisiens à la nation française*. In 1796 he made a world-wide reputation with his book, *Considérations sur la Révolution française*. In 1797 he left Lausanne for Turin, but the conquest of Piedmont compelled him to flee to Venice. Later the king of Sardinia sent him as minister-plenipotentiary to St. Petersburg. Here he pub. a number of works, notably *Éraumes de la Philosophie à Liou* (1817); *De l'Épiscopat* (1819); *De l'Église gallicane* (1821); and *Œuvres de St. Petersbourg* (1821). The founder of ultramontanism and an inveterate and prejudiced enemy of revolutionary ideas, he scourged without mercy or discrimination the 'irreligious doctrines of the eighteenth century.' See J. Mandoni, *Un Homme d'état italien*, 1900; G. Goyau, *La Pensée religieuse de Maistre* (2nd ed.), 1921, and F. Bayle, *Les Idées politiques de Joseph de Maistre*, 1915.

Maistre, Xavier de (1763-1832), Fr. soldier and writer, brother of the above, b. at Chambéry. He served in the Piedmontese Army, but on the annexation of Savoy by the Fr. soldiers he took a commission in the Russian Army, in which he rose to the rank of general. He served in the Austro-Russian campaign and fought in the Caucasus. Finally he settled in St. Petersburg, where he d. He wrote a very pleasant fantasy called *Voyage autour de ma chambre* in 1794. His subsequent works include *Les Larmes de la cité d'Aoste* (1811); *Les Prisonniers du Caucase* (1815); *La jeune Sibérienne* (1815); and *L'Expédition nocturne* (1825). See O. A. Sainte-Beuve, *Portraits contemporains* (vol. III.), 1870-71; A. Berthier, *Xavier de Maistre*, 1920; and H. Bordeaux, *Amours de Xavier de Maistre*, 1931.

Maitland, Frederic William, Sir (1850-1906), Brit. jurist and legal historian; educated at Eton College and Trinity College, Cambridge. Called to the Bar, 1876, and practised for eight years. Appointed reader in Eng. law at Cambridge, 1884; Downing prof. there from 1888 till his death. Founded the Selden Society for the study of Eng. law and ed. the vols. of the society (1887). His merits as a legal historian were shown in his first important work, *Bracton's Note-*

Book (1887). The work on which his reputation chiefly rests is the *History of English Law before the time of Edward I.* written in collaboration with Sir F. Pollock (2 vols. 1895), the standard authority on the subject and remarkable for its use of paradox. Other works include *Doomsday Book and Beyond* (1897); *Roman Canon Law in the Church of England* (1898); *English Law and the Renaissance* (Ride lecture for 1901); *Year Books of Edward II.* (text and trans.) for 1307-10 (pub. in 1903-5). His lectures (1887) on the *Constitutional History of England from Edward I. to the present time* were pub. posthumously (1908). His collected papers were ed. by H. A. L. Fisher in 1911. See also W. S. Holdsworth, *Some Makers of English Law* (1938).

Maitland, John (and Duke of), see LAUDERDALE, EARL.

Maitland, Sir Richard (1496-1586), of Lethington, Scottish poet, lawyer, and historian, son of Wm. M. of Lethington and Thiristane, who fell at Flodden, and of Martha, daughter of George, Lord Seaton, studied at St. Andrews, and in France, and on his return to Scotland was successively employed by James V., the Regent Arran, and Mary of Lorraine. About 1551-52 he received the honour of knighthood, became a lord of the court of session in 1561 (before which, however, he had the misfortune to lose his sight), and Lord Privy Seal in 1562. All his own verses were written after his sixtieth year, and show what things he had most deeply at heart. For the most part, they consist of lamentations for the distracted state of his native country, the feuds of the nobles, and the discontent of the common people. A complete ed. of M.'s original poems was first pub. in 1830 (one 4to vol.) by the Maitland Club, a society of literary antiquaries. His collection of early Scottish poetry consists of two MS. vols. now in the Pepysian Library, Magdalen College, Oxford. M.'s prin. historical performance is the *Historie and Chronicle of the House and Surname of Seyton*. See W. A. Gaigle (ed.), *The Maitland Folio Manuscript*, 1919.

Maitland, Samuel Roffey (1702-1866), Eng. historian of Scottish birth, b. in London. Educated at Westminster and Cambridge; called to the Bar, 1816, but took holy orders, 1821. Wrote an admirable monograph on the Albigenses and Waldenses (1832). From 1838 to 1849 he ed. the *British Magazine*, to which he contributed papers which were pub. later as *The Dark Ages* (1841) and *The Reformation in England* (1849).

Maitland, William (1528-73), son of Sir Richard M., Lord Lethington; known as 'Secretary Lethington.' He was educated at St. Andrews. He became secretary of state to the queen regent of Scotland in 1558, but joined the Lords of Congregation, then in arms against her. In 1560 he acted as speaker in the Convention of Estates and was sent on a mission to the Eng. court as the representative of Protestant interests in Scotland. He was secretary of state, 1561-66,

being responsible for the foreign policy of Mary Queen of Scots, whom he and Moray supported in opposition to the more extreme proposals of Knox. He showed a conciliatory attitude towards England and worked for the union of the two crowns. He represented Mary Queen of Scots at the court of Elizabeth, but provoked the hostility of the Eng. queen by his connivance at the murder of Rizzio (1566). At first he favoured Bothwell and participated in the murder of Darnley, but on Bothwell's marriage with Mary he sided with the insurgents against Mary's forces at Langside. After Mary's flight to England he secretly favoured her cause and formed a party of her adherents and, together with Kirkcaldy, held out in Edinburgh castle till 1573, when he surrendered. He d. in prison at Leith.

Maitland, West and East, two adjoining tns. in New S. Wales, Australia, 120 m. N. of Sydney. It is both an agric. and an industrial centre: the productivity of the alluvial lands has been much increased by irrigation plants, and various agric. products are to be found in the dist., including oranges and other citrus fruits from the Paterson R. area. There are textile mills, manufs. of bricks, tiles, and pottery, engineering and locomotive workshops, etc., whilst to the S. are the world's richest coal seams. Cessnock is a neighbouring mining tn. of recent development. Pop. 19,500.

Malwand, tn. in Afghanistan, situated 35 m. N.W. of Kandahar, was the scene of a Brit. defeat by Ayub Khan, July 27, 1880.

Maixent (or Maxence), Saint (c. 147-615), abbot of Saint-saturnin, b. at Agde. He entered the monastery of Saint-Saturnin in Poltoux and became abbot there about 500. In 507 he received the visit of King Clovis, who came to request his prayers on behalf of an expedition against the Visigoths. His day is June 26.

Maize, or Indian Corn (*Zea Mays*), cereal grass with broad leaves and stout succulent stems indigenous to the Amer. continent. When ripe the valuable seeds are arranged in compact rows on a rachis; they are white, yellow, red, or purple in colour, very firm and flattened at the apex. The crop is of great economic importance in the warmer parts of America, S. Europe, India, and Australia. The plant is frequently grown in gardens for its ornamental effect and for the green unripened cobs which are used as the vegetable called sweet or sugar corn. It is also grown as a fodder crop. The ripe seeds are fermented in S. America to produce M. beer. A meal flour known as corn meal is widely used in the U.S.A. for making corn bread which is served hot. Hominy, which is ground M. boiled in water and milk, is also widely used in the U.S.A.

Majorda, see BAGRADAS.

Majesty (Fr. *majesté*, Lat. *majestas*, grandeur, greatness, from the base *mag-*, as in *magnus*, great, *major*, greater, etc.), dignity, greatness, a term used especially to express the dignity and power of a sovereign. This application is to be

traced to the use of *majestas* in Lat., to express the supreme sovereign dignity of the Rom. state, the *majestas reipublice* or *populi Romani*, hence *majestatem ledere*, or *minuere*, was to commit high treason, *crimen majestatis*. Mommsen conjectures that the crime of *crimen majestatis* or *lese-majesty* in earlier times related exclusively to violation of the rights of the plebs, and only later extended to violations of popular rights generally. There is, however, little evidence in support of this conjecture. In its more precise use, *crimen majestatis* was distinguished from *perduellio*, which connoted essentially acts hostile to the state, as treason and desertion, whereas *crimen majestatis* meant rather some act involving an attack on the respect due to the dignity or sovereignty whether of the people or their representative the king. Later usage, however, made no distinction between *lese-majesty* and *perduellio*, except to assign a much lighter punishment to the former. The term *majesty* was strictly confined in the Middle Ages to successors of the Rom. emperors in the W. Later, the word is used of kings also. In England the use is generally assigned to the reign of Henry VIII. The full form in Eng. use is 'His Most Gracious Majesty.'

Majolica, name properly applied to a species of It. ware in which the body is coated with a thin enamel, on which is laid and fired a painted decoration. It is also applied to similar wares in imitation of the It. ware in other countries. The word in It. is *maiolica*. It has usually been supposed that this ware first came from the is. of Majorca, but it is more likely that the name was given by the It. to the lustrated sp. were imported by ships hailing from the Balearic Isles.

Major, or Mair, John (c. 1469-1550), Scottish historian, a native of (Gleghorn in N. Berwick, studied at Cambridge and Paris, and was the teacher of John Knox and George Buchanan. In 1508 he was a doctor of the Sorbonne, and in 1519 became prof. of divinity at St. Andrews. He wrote in Lat. treatises on divinity and morals, and a *History of Greater Britain*, in which the separate hist. of England and Scotland (*Historia de Gestis Scotorum*) were brought together (pub. 1521). In his writings, while upholding the doctrinal teaching of Rome, he was outspoken in condemning the corruptions of the clergy. He appears to have been a judge on sev. tribunals. Some of his works are *In Libros Sententiarum* (1508); *In quatuor Evangelia Expositiones Luculentæ* (1529); and an introduction to Aristotle's *Dialectics* (1521).

Major, commissioned army rank, being the lowest of field officers. Originally sergeant-M., but sergeant was dropped in the seventeenth century. In Brit. service M. is second-in-command of armoured regiments, commands battery in R.A. and company in R.E.; one is second-in-command and two command companies in Infantry. M. who are second-in-command of a unit relieve the commanding officer of most of the duties unconnected with field training, such as

interior economy, messing, and regimental institutes. The term M. for the chief of a group is found in pipe-M., bugle-M., drum-M., trumpet-M., all of whom are non-commissioned officers. The most conspicuous M. is probably the sergeant-M., the senior warrant officer of a unit. (In the Household Cavalry corporal-M.). In a sense he is the general manager of a unit and comes into contact with almost every phase of its activities. The efficiency of the N.C.O.s. is due mainly to the sergeant-M., more correctly, the regimental sergeant-M. In the U.S. Army M.s. command cavalry squadrons and battalions of artillery and infantry. In European armies generally (except for

resemble the Catalans in their appearance and manners, number about 272,400, are hospitable and industrious, and mostly employ themselves in agriculture. The chief products of the is. are marble, coal, iron, slate, plaster, some semi-precious stones, the common cereals and legumes, oranges, silk, lemons, oil, wine of excellent quality, olives, figs, and aromatic herbs. The chief tn. is Palma (*q.v.*) the cap. In the Sp. civil war M. was held by the insurgents. In Dec. 1936 an It. force landed on the is. and took possession on behalf of the Fascist leader, Gen. Franco. *See* Lady Sheppard, *Mediterranean Island*, 1949.

Major-General, *see* under GENERAL.



MAJORCA: PALMA, A GENERAL VIEW SHOWING THE PORT

E.N.A.

the Russian) M.s. hold more senior appointments than in the Brit. Army. Thus infantry battalions are commanded by M.s., while in the Ger. service this rank was commonly held by the second-in-command of a regiment and not infrequently by regimental commanders.

Major, in music, greater. A M. third consists of four semitones, a minor third of three. A M. tone is the whole tone, having the ratio 8 : 9; a minor tone that having the ratio 9 : 10. Intervals have had the term M. applied to them in a conflicting manner.

Majorca (Sp. Mallorca), largest of the Balearic Isles (*q.v.*), lies 107 m. S.E. of the mouth of the Ebro, the nearest point of the Sp. coast, and 171 m. N. of Algiers. Its greatest length (from E. to W.) is 64 m., and its breadth (from N. to S.) 48 m., with an area of 1310 sq. m. The N.E. half of the is. is mountainous; the other parts are finely diversified with hills, valleys, and plains. The climate is healthful, the sea breeze preserving a nearly equable temp. over the whole is. The inhab., who much

Majorian (Lat. Julius Valerius Majorianus) (d. A.D. 461), Rom. soldier and one of the transient emperors in the W. (457-461). He was one of those made emperor by the Ger. general and regent Ricimer, who bestowed the imperial dignity he himself despised upon sev. noble Romans, and thereby infiltrated Ger. settlements on Rom. soil. M. won a victory over the Vandals on the coast of the Campania in 458, defeated and then concluded an alliance with Theodoric the Visigoth in 460, and crossed the Pyrenees to join forces with the fleet he had concentrated at Carthage. But the Vandal king, by corrupting some of M.'s officers, succeeded in destroying this fleet. His defeat so prejudiced his military reputation that Ricimer, with as little compunction as he had shown when he deposed Avitus (*q.v.*) in 456, forced M. to abdicate (461). M. d. a few days after his abdication—either of dysentery or assassination.

Majority, the age at which a person becomes *sui juris*, i.e. legally old enough to manage his own affairs. By Eng. law an

infant attains his M. at twenty-one (see INFANCY).

Majsa, or **Kiskunmajsa**, tn. in the comitat of Pest-pilis-solt-kiskun, Hungary, 25 m. N.W. of Szegedin.

Majuba Hill, in Natal (properly **Amajuba**, Zulu for 'hill of doves'), mt. in N. Natal, part of the Drakensberg range, rising about 7000 ft. above the sea, and over 2000 ft. above the level of the surrounding country. It overlooks the pass through the Drakensberg known as Laing's Nek, and is 8 m. S. of the Transvaal border and 18 m. N. of the tn. of New-castle. The railway from Durban to Johannesburg skirts the base of the mts. The Boers defeated the Brit. here in 1881, Gen. Colley being killed and about half his command lost.

Makalla, or **Mokalla**, port of Arabia, 300 m. N.E. of Aden, the prin. port of Hadhramaut. M., together with Shihir and dependencies, is under one sultan, who is in treaty relations with Britain, his tribesmen being part of the Aden protectorate. Pop. 18,000.

Makalla, Baggara Arabs of Semitic origin, so called from an Arabic word denoting that they are great cattle owners and breeders. They occupy the country W. of the White Nile between the Shilluk ter. and Dar Nuba, being found principally in Kordofan. They are true nomad Arabs, having intermarried little with the Nuba and having preserved most of their national characteristics. The date of their arrival in the Sudan is uncertain; they appear to have drifted up the Nile valley and to have dispossessed the original Nuba pop.

Makaraka, see **MACARSKA**.

Makart, Hans (1840-84) Austrian painter, b. at Salzburg, son of an inspector of the imperial castle. When as a youth he entered the Vienna Academy, Ger. art was under the rule of Cornelius's cold classicism. It was entirely intellectual and academic, and it is not surprising that M., poor draughtsman to the last, with a passionate and sensual love of colour was found to be devoid of all talent. He went to Munich, and there attracting Piloty with his 'Cupid's' and 'Plague in Florence,' his fame became firmly estab. He used such bad pigments that most of his large paintings have perished.

Makerere College, E. African institute of higher education approaching univ. status. It is situated in spacious grounds on M. hill, 2 m. from Kampala, Uganda, but is an inter-territorial foundation in whose support all the Brit. E. African govs. take part. It had its origins in the Uganda Technical College for the training of African artisans, but as that college served only one side of the colony's educational needs, the scope of the institution was extended in 1922 to include vocations other than those of a purely technical nature. On Aug. 1, 1922 the name of the technical school was changed to M. C. and arrangements made to include in its activities the teaching of medicine, agriculture, veterinary science, engineering, surveying, and the training of schoolmasters and clerks. There was also

added a three-year arts course which prepared candidates for matriculation through the Cambridge school certificate. For six years the training of artisans was carried on side by side with that of students in the professional courses, but in 1929 a separate and well-equipped technical school was opened at Kampala to provide for the former. The main buildings at M. consist of an assembly hall with class-rooms attached in one block, a laboratory and science class-room, boarding-houses, dining-hall, principal's office, common room and library, bursar's and general office, dispensary, kitchen, and stores. There are three playing-fields within half a mile of the college and tennis courts within the precincts. In its report on advanced education the Commission on Higher Education in E. Africa, appointed in 1936, recommended that the then existing post-secondary courses at M., and its associated institutions—Mulago Medical School, Kawanda Agric. School and Old Entebbe Veterinary School—should be grouped together to form a higher college of E. Africa. The Gov. of the United Kingdom asked Parliament for a grant of £100,000 towards the cost of carrying out this proposal. Tanganyika also offered a grant of £100,000, while the Uganda Gov. was prepared to give up to £250,000. With the improvement of the standard of the secondary schools, the school-leaving examination or a local equivalent became the entrance examination to this higher college (to-day, however, M. C. is unwilling to accept the Cambridge certificate or the senior school leaving examination in place of the M. C. entrance examination) which subsequently developed its univ. studies, including courses for the London degree. The first principal of the re-organised college was Mr. G. C. Turner, headmaster of Marlborough College, who was appointed in 1939. On his retirement in 1946 he was succeeded by Dr. W. D. Lamont. The present organisation of M. C. is based on Eng. public school lines, there are six 'houses' with house tutors and prefects. Religious instruction is given by chaplains. M. C. and its associated institutions are the only centre for advanced education in E. Africa and pupils attend from all over E. Africa. The number of students pursuing the general cultural course was, up to recent times, a small minority of the total; the rest followed the vocational courses. Many hundreds of students have passed through the college since its foundation. A large number of these are absorbed in various branches of the African civil service. The majority of schoolmasters trained at the college are working in the schools of the missionary societies. Many students trained at the pre-vocational science course have become fully qualified medical aids, and are capable, under some supervision, of running dist. stations and hospitals by themselves. M. C. is rapidly developing the status of a univ. college and legal instruments have been prepared to revise its constitution accordingly.

Make-up, **Theatrical**. Stage M. can,

broadly speaking, be divided into two main headings, straight M. and character M. By the former is meant any M. which helps us to appear at, or about, our own age. Character M. can either age or disfigure our natural appearance and needs considerable study and practice. Stage lighting tends to flatten our features and give our natural colouring a dull, drab appearance and this has to be counteracted by the use of grease-paint. (Generally speaking, modern stage lighting calls for the use of the following grease-paints: (1) No. 5; (2) No. 9; (3) (a) medium blue liner (for fair people), for lining round the eyes and shading, (b) dark blue liner for dark people; (4) carmine-vermilion and lake liner for lips; (5) carmine I. for cheeks if found necessary. A very little cold cream or M. grease should be smoothed all over the face, neck, and eye sockets before using any grease-paint. This should be used very sparingly as the amount required varies according to the type of skin. By the use of varying amounts of No. 5 and No. 9 grease-paint a fair, medium, or dark colouring can be obtained, but this is only achieved by experiment and practice as each individual skin is different in texture. The lining and shading of the eyes should be done very carefully and the black liner should be avoided at all costs. Unless the eyebrows are very pale it is seldom necessary in a straight M. to use any colour on them, but if found essential the brown liner is best for this purpose. In the case of women, carmine-vermilion mixed with lake should be used for the upper lip, and carmine-vermilion alone for the lower. Men should use lake for the upper and a mixture of carmine-vermilion and lake for the lower. The whole secret of a successful M. is the blending of the No. 5 and No. 9 and the achievement of a smooth foundation, and this can only be achieved by practice and knowing one's own face.

Makeyevka, tn. of the Stalino region of the Ukrainian S.S.R., 13 m. N.E. of Stalino. It has coal-mines, and metal and chemical industries. Pop. 240,100.

Makhaach-Kala, cap. of the Daghestan A.S.S.R., on the W. coast of the Caspian Sea. It lies in an oil-bearing dist. and has a pipe-line to Grozny. There are machinery and engineering works. The railway from Azov to Baku passes through the tn. Pop. 86,800.

Mako, tn. of Hungary, cap. of the co. of Csanád, 135 m. S.E. of Budapest. The most noteworthy building is the palace of the bishop of Csanád, whose usual residence is in Temesvár. The tn. possesses numerous mills, and the surrounding country is fertile, producing corn and wine, and affording excellent pasturage for cattle. Pop. 36,000.

Makran, dist. in the S.E. of Persia, and S.W. of Baluchistan, bounded S. by the Arabian Sea. It is noted for its fruit. Area 23,260 sq. m. Pop. 78,000.

Makrizi Taki Addin Abu Ahmed Mohammed (1360-1442), Arabic historian and geographer, b. in Makriz, near Baalbek. He early devoted himself to the study of hist., jurisprudence, tradition,

astrology, etc., at Cairo, where also he afterwards held the offices of Mohtashir, or inspector of weights and measures, of khatib and imam at different mosques. M. wrote a hist. of the Mamluk sultans, two treatises on Muslim (Kufic) coins, weights, and measures which have been ed. and trans. by Tychsen (Into Lat.) and by Silvestre de Sacy (in a Fr.-Arabic chrestomathy) (q.v.), but his most important work is his *Description of Egypt*, which gives an account of the hist. of the country from its conquest by the Moslems, as well as a description of its natural hist. and antiquities and of the manners and customs of the inhab. He commenced writing *On the Important Personages who had Visited Egypt*, and intended to fill eighty vols., but only a small portion of these (one autograph vol. is in the Imperial Library at Paris) was really accomplished.

Makronisi, Gk. is. in the Aegean Sea. Here in 1943 was instituted by the Gk. Gov. a scheme for the education in citizenship of sev. thousand men who had at one time served in the guerrilla ranks during the civil war which followed the Second World War.

Malabar, maritime dist. of Madras Prov. India, is bounded on the E. by the dist. of Coimbatore, while on the W. its shores are washed by the Arabian Sea; it extends in lat. from 19° 15' to 12° 18' N. Area 5800 sq. m. Pop. 3,929,400. The surface is occupied in the E. by the Nilgiris, and the W. Ghats cover a great portion of the dist. Rice, coconuts, and rubber are produced. The name of this dist. is applied to the whole S.W. coast of S. India. Calicut (127,000) is the cap. See K. M. Panikkar, *Malabar and the Portuguese, 1500-1663*, 1929.

Malabon, dist. of the Philippines on the Isle of Luzon.

Malabuyoc, dist. of Cebu Is., Philippines.

Malacca, tn. on the W. coast of the Malay Peninsula, which, with the terr. lying around and beyond, forms one of the Straits Settlements and gives its name to the strait which divides Sumatra from the Malay Peninsula. Its name, which is Melaka, is that of a species of jungle fruit, and is also borne by the small riv. on the r. b. of which the old Dutch tn. stands. The Dutch tn. is connected by a bridge with the business quarter on the l. b. which is inhabited exclusively by Chinese, Eurasians, and Malays. M., now a somnolent tn. and, before the Second World War, a favourite resort of rich Chinese who had retired from business, was visited by few ships and was the least important of the three Brit. settlements on the straits which gave their name to the colony. Since 1511 it has continued to be the possession of one or other of the European powers. For its hist. see further under *MALAYA, History*. It fell to the Jap. in Jan. 1942, but reverted to the Brit. authorities in Sept. '45. Area of colony 640 sq. m. Pop. 236,000, of which 107,000 are Malays, 85,300 Chinese, and 28,300 Indians. See Sir F. Swettenham, *British Malaya*, 1906, and Sir R. O.

Winstedt, *Malaya, the Straits Settlements and the Malay States*, 1923, and *A History of Malaya*, 1935.

Malachi, last of the minor prophets, about whose person nothing is known. His personal existence seems doubtful, for the Septuagint has in 1.1., 'by the hand of his messenger'; the Targum has 'by the hand of Malachi (or, of my messenger), whose name is Ezra the scribe.' The prophecy belongs to the age of Ezra and Nehemiah, the period during which Judah was a Persian prov. It was written after the rebuilding of the temple. A comparison of the book of M., with Ezra and Nehemiah shows much similarity of subject-matter, especially in the strong condemnations of inter-marriage with the heathen and the people's laxity in the payment of the priestly dues. M. further prophesies the purification of the priesthood by the Messiah. See W. E. Barnes, *Illego, Zechariah, and Malachi*, 1917, and E. A. Annett, *The Hidden Centuries: Malachi to Maltheic*, 1926.

Malachite, mineral consisting of basic cupric carbonate $\text{CuCO}_3 \cdot \text{Cu(OH)}_2$. It has a fine green colour; it generally occurs massive, with a mammillated, reniform, or botryoidal surface. It is occasionally found as dark green monoclinic crystals, and when associated with limonite as compact fibrous or earthy masses. It is found in great quantity in Siberia and the finer quality is used for making ornaments, mosaic, etc., as it takes a fair polish. It also occurs with other copper ores in Russia, Australia, Arizona, etc., and is smelted with other mineral.

Malachite Green, brilliant green dye derived from coal-tar. It is a double salt, consisting of the chlorides of zinc and tetramethyldiaminotriphenyl carbinol. M. G. dyes silk and wool without any previous preparation of the material, but cotton requires to be mordanted with tannin and tartar emetic. It is not very fast to light, and much more valuable green dyes are now known.

Malachy, St., or Malachy O'Morgair (1094-1148), illustrious Irish prelate, b. at Arnach, of a noble family. Early placing himself under the tutelage of a pious recluse named Imac, his ascetic example was followed by other young men and a monastery grew up round the cell of Imac. Ordained priest at the age of twenty-five, he preached among the poor. Having sought out Malchi, bishop of Lismore, he learnt from him the rule of auct. ecclies. discipline, and on his return was placed at the head of the Bangor abbacy. Thence he took the episcopal see of Connor, but on the ruin of this tn. by the king of Ulster he returned to Armagh, of which he was elected archbishop in 1127. He endeavoured to revive auct. discipline in this diocese, and provided the parishes with pastors. In 1135, having had Gelax accepted as his successor, he returned to Connor, installed a bishop there, and himself went to live in Down, where he founded a new episcopal see. In 1148 he set out for Rome to confer with Pope Eugenius III. on the needs

of the Irish Church, but expired at Clairvaux in the arms of St. Bernard. The life of St. M. was written in Lat. by St. Bernard and trans. into It. by Maffei. See W. Harris's ed. of Sir J. Ware's *Bishops*, 1739.

Malacology (from Gk. *malakos*, soft, *logos*, discourse), science which is concerned with soft-bodied invertebrates and particularly molluscs.

Malacopterygii, Cuvier's name for an order of fishes in which the rays of the fins are soft and cartilaginous and not pointed at the extremities. The Salmonidae salmon and trout family) are examples.

Malacostraca, that div. of the Crustacea which includes the higher forms such as crabs, lobsters, shrimps, woodlice, and sand-hoppers. The remaining species are placed in the div. Entomostraca, and include the barnacles, water 'lice', etc.

Málaga, seaport of Spain, and cap. of a prov. of the same name, on a bay of the Mediterranean, 65 m. N.E. of Gibraltar. The tn. is enclosed by mts. and commanded by a fine old Moorish castle, called the Gibralfaro, built in the thirteenth century on the site of a former Phœnician stronghold. Other important buildings are the cathedral with a spire 280 ft. high, the episcopal palace, an opera house, and a bull-ring. The climate of M. is noted for its uniform mildness and constant sunshine, which make the place a favourite resort for invalids. The harbour, which is formed by sev. moles, is capable of holding hundreds of ships. M. is a very important commercial centre, and exports wine, olives, figs, raisins, lemons, etc. The manufs. include textiles, rope, leather, etc., and there are cigar factories, sugar mills, and iron foundries. Pop., prov. 722,848; tn. 277,882.

Málaga Wine is produced chiefly from the Axarquía dist. of M., and the finest is made from the muscatel grapes, *Doña* and *Lágrimas* being the best known varieties.

Malahide, coastal tn. of Co. Dublin, Ire., 12 m. N.E. of Dublin, in the King's plain. It is a beauty spot, with a fine view of the Dublin and Wicklow mts. across the plain. Golf has contributed to the renewal of its popularity.

Malaita, is. of the Brit. Solomon Is. protectorate, lying S.E. of the large is. Ysabel, being crossed in the centre by lat. 9° S. and long. 161° E. Area 2396 sq. m. It was named Iramos by the Spaniards, whose explorer, Mendana, visited the Solomons in 1595. Cape Astrolabe at the N. end of the is. is named after one of two Fr. frigates under the command of the ill-fated La Pérouse, who came to the is. twenty years after Mendana (he was wrecked off Vanikoro Is.). M. is the most densely populated of all the Solomons (pop. estimated at 40,000, mainly Melanesians). There are two distinct classes of natives on M., namely the 'salt-water men' who spend their time in fishing 'or a certain kind of shell found near Juki harbour and used as money. They live mostly on coral islets, some of which have been built artificially on the reefs and are all mapped

out on a system of taboos or *tambus*, which are rigidly respected. The others are the bushmen. Most of the plantation labour used in the protectorate comes from M. The bushman is also excellent at forest clearing.

Malakand, pass lying N. of Peshawar in the N.W. Frontier Prov., Pakistan. It extends from the valley of Kabul to that of the Swat R. Dargal is at the mouth of the pass. In 1897 the Swats attacked the Brit. frontier post here and this led to the M. expedition of that year. Irrigation works have been begun in the vicinity. The tn. of M. is the headquarters of the Delir-Swat-Chitral agency.

Malakoff: 1. Tn. in the dept. of Seine, France, a S.W. suburb of Paris. Originally it was called *Californina*, but was renamed as above in 1818. 2. Fort of Sebastopol, Crimea, noted for its storming by the Fr. in Sept. 1855.

Malalas, or Malelas, Johannes, Byzantine chronicler of the sixth century, was probably of Syrian origin, but little is known of his life. He wrote a universal hist., from the creation to the reign of Justinian. His hist. was trans. into Lat. by Edmund Chilmead (d. 1653), and first pub., ed. by Hody, in 1691 as an appendix. See Jebb, *Bentley* (Eng. Men of Letters), 1882.

Malan, Daniel François (b. 1871), S. African statesman, b. at Riebeck West, Cape Prov.; educated at Victoria College, Stellenbosch, and at Utrecht Univ. Dutch Reformed minister. Then elected member for Calvinia in Hertzog's Nationalist Gov., in which he became minister of the interior, health, and education, 1924-1933. He founded the Nationalist (Afrikaner) party (subsequently called 'Nationalist' as distinguished from the 'Afrikaner' party) standing for an independent S. African republic outside the Brit. Commonwealth, strongly anti-Semitic and Nazi-sympathising. Opposed the Union's entry into the Second World War, and joined forces with Gen. Hertzog (q.v.) in Jan 1940, to combat Gen. Smuts's policy of imperial co-operation and war against Hitlerism. At this time his party held only twenty-eight seats (out of 150) in the House of Assembly. Never, however, a revolutionary, he showed his uncompromising hostility to the Ossewabrandwag (q.v.), a movement which he described as heading the Union towards internecine warfare, and he urged his 'reunited party' in 1942-43 to resign from it. In the new House of Assembly (July 1943) his party lost two, and Gen. Smuts's party gained seventeen seats. This election was in effect a referendum on the clear-cut alternative of neutrality or war. M., however, did not cloak his intentions before the election and declared: 'Our policy if we gain power is to cease active participation in the war and to withdraw our troops for our own defence within our own borders—a policy to which Mr. Havenga, leader of the Afrikaner party, lent his support. His position on the continuing of membership of the

Brit. Commonwealth of Nations has always tended to change from a policy of 'loosening the ties between the members of the commonwealth' to staying in with a view to such advantages as might be secured by membership. His advent to power in 1948 was somewhat unexpected; but a significant development before that election was a party pact between M. as leader of the Nationalist party and Havenga as leader of the Afrikaner party. The general election of May resulted in the defeat of Smuts, who even lost his own seat, and M. on June 3 formed a new Cabinet, which included the Afrikaner leader. In a broadcast (June 3) M. said S. Africa would gladly continue her good relations with Britain and other commonwealth countries if her status as a sovereign state was not prejudiced. Later in the year he said that S. Africa aligned herself with anti-Communist countries and approved W. European Union. Following the conference of dominion prime ministers in London (May 1949) on the question whether India could become a republic and yet remain in the Commonwealth, M., on his return to Cape Town, delivered in the Assembly what seemed to be an unequivocal assurance that in his view S. Africa should never leave the commonwealth—although he 'believed that South Africa's greatest chance of unity would be as a republic within the commonwealth.' He said also that, since the Crown had been named as a connecting link as 'head of the commonwealth' he had felt it necessary at the conference to make it clear that this headship implied no formal constitutional function—in other words that it did not in any way suggest that the commonwealth was or resembled a super-state—and he said that 'to his surprise he found complete unanimity among the prime ministers on that point.' On the colour question M. stands for the separation of natives, the migration of whom into the tn. gave rise, in his opinion, to serious conditions endangering the safety of life and property; and on his accession to power his gov. took steps to abolish native representation in the House of Assembly.

Malapterurus, genus of fish typified by *M. electricus*, the electric catfish, found in the fresh water of tropical Africa. The electric organ is of cutaneous origin and is thickest on the abdomen but extends over the whole body.

Malaria (from It. *mala*, bad, and *aria*, air), diseased condition common in tropical and marshy dists., and associated with parasites of certain gnats and mosquitoes. The names marsh-fever, jungle-fever, ague, etc., are applied to forms of the disease, and the names remittent, intermittent, tertian, quartan fever, etc., to forms characterised by particular kinds of periodicity. The paroxysms comprise cold, hot, and sweating stages, which recur in that order. The first stage is marked by shivering and a feeling of chill on the part of the patient, although the body temp. is much higher than normal. The cold feeling is due to the constriction of the surface blood-vessels; the interior

vessels become correspondingly gorged, and there is considerable enlargement of the spleen and an increased flow of urine. The second stage commences with a feeling of heat internally which gradually proceeds to the surface, giving the usual feverish sensations of excessive heat, increased thirst, dry skin, and mental confusion or delirium. The body temp. is still high, but not so high as in the 'cold' stage, the enlargement of the spleen continues, but the flow of urine becomes scanty. The third stage commences with an amelioration of the dry condition of the skin, proceeding to profuse perspiration. The body temp. falls, the patient feels considerably exhausted but easier, and may fall into a deep sleep. If there is an interval of normal conditions between the paroxysms, the fever is known as *intermittent*; if the symptoms are merely ameliorated for a time, the fever is called *remittent*. If the paroxysms recur daily the fever is designated *quotidian*; if on alternate days, *tertian*; if two days elapse between paroxysms, *quartan*. If two paroxysms occur in a day, the fever is called *double quotidian*. The quotidian form usually occurs in the morning, the tertian at noon, and the quartan in the afternoon. The cause of M. is the presence of specific protozoa (species of *Plasmodium*) in the blood. It is now sufficiently well estab. that these protozoa are parasitic on the mosquito, and that human beings are infected from the bite of a mosquito. It was in 1894 that Sir Patrick Manson put forward the 'mosquito-M.' theory. He suggested that flagellating bodies were set free in the stomach of a mosquito and that these gained access to water through the insects' drowning in it and that man acquired infection by imbibition of water. A vital discovery was made in 1897 by Sir Ronald Ross (*q.v.*), who found pigmented bodies (oocysts) in the stomach-wall of 'dapple-winged' mosquitoes bred from larvae and in 1898-99 Koch and Pfeiffer confirmed Ross's findings in birds as applicable to human M. (But many more discoveries, biological and chemical, will have to be made before it will be safe to say that the solution of the malaria problem in the world generally is appreciably nearer than of old' (Wallace of Kedah, Malaya).) When the organisms are estab. in the blood, they multiply by throwing off spores (merozoites) and at the same time liberate a toxin which causes the feverish symptoms. The manner in which the cycle of reproduction and growth is carried on accounts for the periodicity of the malarial paroxysms, the tertian, quartan, etc., forms being due to different species of parasites, possibly from different species of mosquito. The process of reproduction may recur again and again as long as the patient lives, the protozoa acting upon the blood and turning the haemoglobin into melanin. The parasites, however, have another phase of existence which they pass in the body of the mosquito, the process of reproduction being in this case sexual. The mosquito thus serves as a definite host to carry infection from one patient

to another, human beings serving as intermediate hosts.

The prevention of M. is, therefore, concerned with the extinction of the mosquito. Mosquito nets are useful as a means of defence if the meshes be sufficiently fine, but permanently healthy conditions can be estab. only by preventing the reproduction of the kinds of mosquito or gnats responsible for the infection. These mosquitoes belong to the genus *Anopheles*, different species of which thrive in different countries. The life-history of the mosquito comprises stages as ovum, larva, pupa, and insect. The ova are deposited on the surface of still or slowly moving water, the larvae and pupae also float about on the water, and the complete insect may be developed within thirty days of the deposition of the ova. The partial or complete extinction of the insect may therefore be effected by thoroughly draining off all surface waters which tend to become stagnant, and by stocking standing water with fish and other carnivorous animals that will devour the larvae. A thin film of oil spread on the water suffocates larvae and pupae, for neither can breathe under water. Even if the insect is suppressed only for a time, the cycle of existence of the parasite may be broken and the mosquito itself is thus rendered comparatively harmless. For example, *Anopheles maculipennis*, or the speckled-wing mosquito, still flourishes in England, and at the outbreak of the first World War, was not acting as a carrier of M. organisms, although it was associated with the disease in other parts of Europe and in America. After the return of infected soldiers to England, these species of *Anopheles* carried infection from man to man, and there is always the possibility of M. being spread in this way by insects previously uninfected.

The most effective treatment for M. once contracted is the administration of quinine, which destroys the parasite. The doses should be 30 grains taken daily, and should gradually be decreased, according to symptoms, to 6 grains. The treatment must be continued for at least three months. The sulphate is most commonly employed, and may be given in solution by the mouth, rectum, or hypodermically. As a prophylactic measure, doses of 2 to 4 grains are taken systematically by dwellers in malarial regions. Synthetic anti-malarial drugs have been developed recently, e.g. mepacrin and paludrine, and proved of great value during the Second World War. The new insecticides such as 'D.D.T.' have been used with success against mosquito larvae. Large numbers of natives in the tropics and sub-tropics are infected with M. parasites, and foreign residents should live as far as possible from native quarters, for there *Anopheles* will be more abundant, and will almost certainly be infected. The insects may be kept away by rubbing the skin with preparations containing strong essential oils, such as oil of lavender, oil of thyme, or oil of oranges. Houses and beds

should be screened at night, for the insects feed nocturnally.

After the cause of *M.* and the life-history of the organism were known, the quantitative investigation of *M.* as an epidemic disease was first attempted in the Punjab by S. R. Christophers in 1908. Results of this show that as an epidemic disease *M.* may be localised or regional. Mild or allied epidemics may be due to seasonal recurrence of *M.*; severe ones may occur amongst non-immune forces or labour gangs in foreign countries. The so-called 'pandemics' of *M.* are best regarded as regional epidemics, for they were probably due to a seasonal recrudescence of the disease, and what appeared to be the diffusibility characteristic of pandemics was due to the recrudescence beginning at different times in different individuals.

There are three recognised zones of malarial distribution; temperate, i.e. between 40° and 60° N., where the benign tertian is the prevailing form (in the corresponding zone in the S. hemisphere *M.* is uncommon); sub-tropical (between 40° N. and 40° S.), where sub-tertian and benign tertian are both common, the former being epidemic in autumn; and tropical, where sub-tertian predominates. There are countries where all the known favouring conditions are present and yet infection does not spread. Dr. Harold Scott states that the reasons for this are not known. The disease may, also, 'occur in one place and not in another apparently similar, only a mile or so distant.' The explanation may be the absence of breeding sites near the latter. Again, infection may occur in the suburbs of larger towns, but not in the centre; 'a potent reason for this is the construction of closed drains in the towns.' Again, the climate may be apparently favourable (e.g. Fiji, Barbados), and yet *M.* is absent, probably because the suitable vector is wanting. In Denmark and elsewhere *M.* has died out and England is almost free; 'agricultural developments, zoophilism, general improved hygiene are probably responsible. . . . On the other hand Corsica is an example of a foreign country formerly highly cultivated and healthy, now very malarious.'

The International Health Board of the Rockefeller Foundation has provided funds for campaigns against *M.* in parts of S. America, Italy, Palestine, and the Philippine Is. During the present century, the incidence of *M.* in the U.S.A. has been decreased by approximately 5 per cent. For successful eradication of the disease, all preventive measures must be used, for while man is infected mosquitoes will be infected and vice versa. In spite of modern control measures *M.* remains a serious menace, and is responsible for more deaths than any one other disease. See also BACTERIA; EPIDEMIOLOGY; ENTOMOLOGY; and INSECT BITES AND STINGS.

See Sir F. Mason, *Lectures on Tropical Diseases*, 1905, 1946; Sir R. Ross, *Memoirs*, 1923, and *Studies on Malaria*, 1928; L. W. Hackett, *Malaria in Europe*, 1937; H. H. Scott, *History of Tropical*

Medicine, 1939; W. Herms and H. Gray, *Mosquito Control*, 2nd ed., 1944; W. N. Bispham, *Malaria: Diagnosis, its Treatment and Prophylaxis*, 1944; and J. F. Marshall, *Report on the Proceedings of the Hayling Mosquito Control*.

Mälar, Lake, in Sweden, extends inland from the Baltic for 81 m. and varies in breadth from 2 to 23 m.; the R. Arvoga enters its W. end and serves to connect it with Lake Hjelmar. Stockholm is situated on the strait connecting Lake M. with the Baltic.

Malaspina Glacier, Alaska, N. America, is one of the largest glaciers in the N. regions; it lies W. of Yakutat Bay and is fed by the snows of St. Elias Range.

Malatesta, celebrated family of masters and tyrants of Rimini whose sway endured with intermissions, from the thirteenth to the sixteenth century. Rimini, defeated by Cesena, took the desperate course of granting citizenship to two members of the powerful M. tribe, Giovanni and M., in order to secure their military aid. The M. family thereupon settled in Rimini, Giovanni being made *podestà*, the initial step to the sovereign power afterwards consolidated by his descendants. During the struggles of the Guelphs and Ghibellines the M. succeeded by all manner of crimes and violence in becoming masters and tyrants of Rimini—tyrants were prominent in the period 1313 to the end of the fifteenth century, for the despots, as they have been called, answered a deep-seated and generally felt need. A powerful man, rich and enterprising, could be expected to give a more continuous and thus, presumably, more successful direction to the state and keep his possible rivals in check or destroy them. Giovanni d. in 1247 and was succeeded by his son M., surnamed M. da Verrucchio (1242-1312), the true founder of his house, a determined foe of the Ghibellines, who led the Guelphs back in triumph to Rimini. The pope (Boniface VIII.), while conscious of the threatened rights of the holy see, preferred to maintain good relations with a *condottiere* who had restored the Guelphs in the Romagna and in 1299 conferred high honours on M. This tyrant, who lived to a hundred, and was placed in hell (*Inferno*) by Dante, had four sons, Malatestino, Giovanni the Lame, Paolo the Handsome, and Pandolfo, but only the eldest and youngest survived him. Giovanni the Lame, in return for his military help to Giovanni da Polenta of Ravenna, was given the hand of the latter's beautiful daughter, known to hist. and poetry as Francesca da Rimini. But her love had been given to Paolo and the two lovers, being surprised by Giovanni, were slain on the spot (1285)—an episode of the story of the M. which is immortalised in Dante's *Inferno*. Giovanni the Lame d. in 1304. Malatestino became lord of Rimini and on his death (1317) power devolved on Pandolfo, who d. in 1326, leaving two heirs, M. and Galeotto. The former (surnamed *Gustafamiglia*) tried to aggrandise his small principality by force of arms and treachery, but it was devastated by Cardinal

Albornoz at the instance of Pope Innocent VI., and thereafter **Gustafungia** ruled in subordination to the papal see. He was then granted **Pesaro** which, later, devolved on his descendants. **Carlo** and **Galeazzo**. The former was father of **Parisina**, wife of the marquis of Este, who discovered her incestuous love for **Hugo**, his handsome bastard son, and the lovers were beheaded in Ferrara castle. Byron's poem, *Parisina*, is founded on this story as told in Gibbon's *Antiquities of the House of Brunswick*. **Sigismondo M.** (1417-68) received the state of **Rimini** by bequest of his brother, **Galeotto** (1411-32), an ascetic who d. early. **Sigismondo** is the faithless, splendid, and tragic personage to whom **Rimini** owes its renown during the Renaissance. A patron of art and letters and a soldier, he was excommunicated (1460) for waging war on the pope, **Pius II.** (**Enea Silvio Piccolomini**). To **Sigismondo** is due the erection of the church or duomo of **St. Francis**, or temple of the **M.**, the most famous building in **Rimini** and one of the most important monuments of the Renaissance in all Italy. Originally a Franciscan church dating from the close of the thirteenth century, it was entirely remodelled in 1450 by order of **Sigismondo M.**, whose tomb is inside the main entrance (the church was amongst those seriously damaged in the Second World War). **Sigismondo** was dissolute, but his passion for **Isotta degli Atti**, who acquired (1413) considerable influence over him and bore him sev. children, is said to have endured to his death. Their marriage only took place in 1456. When **Pius II.** proclaimed a crusade against the Turks at the assembly at **Mantua**, **Sigismondo** had hampered his strenuous efforts by secretly inviting the **Grand Turk** to invade Italy. This was adduced against him at his trial (in his absence) in **Rome** (1460) for conspiring against the pope and he was sentenced to be burned as a heretic and to confiscation of his property. **Sigismondo** then prepared to defend himself (1462) against the forces of the **Bishop Vitelleschi** and other leaders sent against him by **Rome**, and at length he was forced to make his submission. He was deprived of all his possessions save **Rimini** but, his power having been broken, the sentence of excommunication was withdrawn. **Sigismondo** was followed by his illegitimate son, **Roberto** (by another than **Isotta**), who, in 1475, married the daughter of the duke of **Urbino**, and, at the invitation of the pope, valiantly defended him against the assaults of the duke of **Calabria**, dying in 1482 from the hardships of the campaign. His descendant, **Pandolfo** (called **Pandolfaccio** in allusion to his evil character) sold his rights in **Rimini** to **Venice**, an arrangement of which **Pope Julius II.** so strongly disapproved that he marched against and crushed the **Venetians** (1509) and became master of **Rimini**. **Pandolfo** made sev. attempts to regain his city from him but in vain, for his former subjects preferred the papal regime and **Pandolfo d.** in poverty (1534). From that time the **M.** became citizens of **Venice**.

Malatia, Malatiah, or Aspuzo, tn. of **Asutic Turkey**, in the vilayet of the same name, 100 m. N.E. of **Marash**, near the **Euphrates**. It is noted for its orchards and vineyards, and there are copper-mines in the vilayet. About one-fifth of the pop. are **Armenians** and the rest **Turks**; in 1895 **M.** was the scene of a massacre of (Christians). Pop. (vilayet) 138,500; (tn.) 38,000.

Malaviya, Pandit Madan Mohan (1861-1948), Hindu Nationalist politician, b. at **Allahabad**, studied at the gov. high school there, and the **Muir Central College**. He was associated with the **Indian National Congress** almost from its inception, being a delegate to the second session held in **Calcutta** in 1896. Became editor of the weekly paper, *Hindustan*, and also ed. the *Indian Union*. Some years later he started a weekly Hindu paper, the *Abhyudaya*, and, many years later still, collaborated in founding the **Nationalist** daily paper, the *Leader*, at **Allahabad**. In 1902 he became a member of the **United Provs. Legislative Council**. In 1910, on the introduction of the **Morley-Minto** reforms (see *INDIA, History*), he was elected to the **Imperial Legislative Council** and remained a member until 1921. **M.** was the originator and for long the president of the militant **Hindu Mahasabha**, the founder and for many years the vice-chancellor of the **Benares Hindu Univ.**, and three president of the **Indian National Congress**. For nearly fifty years he was a constitutional if vehement advocate of **Indian political advancement**, but in 1930 seems to have been somewhat carried off his feet by the civil disobedience movement. Notwithstanding his constant political activities his deepest attachments were to **Hinduism** and his outstanding contribution to neo-Hinduism was his creation of the **Hindu Univ.** at **Benares** out of the nucleus of the **Central Hindu College**.

Malaya, or British Malaya, situated in the S. part of the **Kra peninsula**, being the S.E. corner of **Asia** between **India** and **China**. It lies between 1° and 7° N. and between 100° and 105° E., and is bounded on the N. by **Siam (Thailand)** and on the W., S., and E. by the **Netherlands E. Indies**, **Sarawak**, and **Brit. N. Borneo**. Before the Second World War it comprised the colony of the **Straits Settlements**, the (Federated) **Malay States** of **Perak**, **Selangor**, **Negeri Sembilan**, and **Pahang**, and the (Unfederated) **Malay States** of **Johore**, **Kedah**, **Kelantan**, **Trengganu**, and **Perlis**, all these **Malay states** constituting the **Malay Peninsula**. The (Federated) **Malay States** have an area of 27,540 sq. m. and a pop. (1941) of 2,212,000, and the (Unfederated) **States** have an area of 22,100 sq. m. and a pop. (1941) of 1,872,300. The **Straits Settlements** (q.v.) comprised not only **Singapore**, but **Christmas Is.** and the **Cocon-Keeling** group of Is., **Penang**, including **Prov. Wellesley**, and **Malacca**, the total area being 1321 sq. m. and the pop. (1941) 1,427,000 (of whom **Singapore** had 769,200). The post-war (1947) 'Malayan Union' denoted the crown colony of the

Malayan Union and included the nine Malay States and Penang and Malacca under a Brit. governor. The Malayan Union (see under *History*), however, was soon replaced by a federation under a governor-general, whose jurisdiction covers all these territories and others: i.e. Singapore (a separate colony under its own governor), the Malay States (previously Federated and Unfederated), Sarawak (a crown colony under its own governor), Brunei (a Brit.-protected state in Borneo under a sultan, with a resident as adviser to the governor-general), and Brit. N. Borneo (a crown colony under a governor), the rights and interests of the rajas of Sarawak and those of the Brit. N. Borneo Company having been acquired by the Brit. Gov. since the end of the Second World War.

Chinese now outnumber Malays in M., while each comprise a little less than half the entire pop., the remainder being for the most part Arabs, Europeans, Indians, and Jap. Eng. and Malay are the general languages, 'Bazaar Malay' being the lingua franca of the larger towns and in frequent use between Chinese from various provinces.

The characteristic features of the climate of M. are uniform temp., high humidity, and copious rainfall, and arise mainly from the maritime exposure of the peninsula. The excessive temps. which are found in continental tropical areas are never experienced. An air temp. of 100° F. has very rarely been recorded in M. under standard conditions. Four seasons may be distinguished, namely, that of the S.W. monsoon, that of the N.E. monsoon, and two shorter seasons separating the end of each of these from the beginning of the other. The highest recorded rainfall occurs in the Larut Hills near Taiping where the average is 232 in. Taiping itself, at the foot of these hills, has the highest rainfall of the low-level stations with an average of 166 in. The nights are reasonably cold everywhere, and although the days are frequently hot and, on account of the high humidity, somewhat oppressive, it very rarely happens that refreshing sleep is not obtained at night. The effect of the heat and humidity is, however, cumulative, and after a few years Europeans require a change to a bracing climate.

The chief exports and sources of revenue of M. are tin and rubber. Among other exports are copra, timber, rice, and padi, canned pineapples, areca nuts, tapioea, rattans, palm oil and kernels, gambier, and gold. In all there are over 1100 m. of railway in the states, the Johore State railway (120 m.), opened in 1909, establishing through communication between Penang and Singapore. The imperial gov. before the Second World War completed the system S. of Siam so as to have a trunk line through the whole Malay Peninsula, branching at Gemas in Negri Sembilan, to the W. and E. coast lines, and joining up with the S. Siamese lines through Perlis and Kelantan. There are 6000 m. of metalled cart roads, 2000 m. of bridle roads and paths, while the rivers

are navigable for small boats. The states before the Second World War maintained a highly efficient regiment of Sikh troops, and were policed by a mixed force of Indians and Malays officered by Europeans. Under the treaty of 1895 the states were obliged to furnish troops for service in the colony if the gov. should be at war with a foreign nation. Before the Second World War the officer administering the gov. of the Straits Settlements was *ex-officio* high commissioner for the Federated Malay States and the other Malay states in the Brit. sphere. There was a Federal Council, created in 1909, consisting of the high commissioner, the chief secretary to the gov., the four Brit. residents of each of the states, and various other departmental heads. Previously there was a Brit. resident general, but in 1911 that title was superseded by that of chief secretary. The supreme authority in each of the four states was vested in the State Council, consisting of the sultan of each state, the Brit. resident and his secretary, together with native chiefs and Chinese merchants. In 1936, as a further step towards decentralisation, the post of chief secretary to the gov. was abolished, and the post of federal secretary was substituted, this official being the channel of communication between the states and the high commissioner in matters appertaining purely to the states. In purely federal matters his duties were assimilated to those of a colonial secretary in the colonies.

Administration under the Brit. regime effected salutary changes in M. With the transfer in 1887 to the Colonial Office it was decided to recruit a separate Straits civil service, composed of cadets specially trained in the languages and customs of the Chinese and Malays. A step towards self-government was made some years ago by the transfer of a number of posts in the Straits Settlements to a local civil service confined to Asiatic or Eurasian Brit. subjects. The rapid development of M. led to the recruitment of many professional and technical officers and this recruitment of specialists led to great advances in administration. Transport was improved out of recognition. For centuries rivers had been the only means of communication, but by 1910 there were over 5000 m. of metalled roads traversed by motor cars, lorries, and buses. The first few miles of railway were built by Perak in 1885; the total length of line by 1940 was over 1100 m. In 1901 the revenue of the Straits Settlements was £700,000 and that of the Federated Malay States in 1897 (the first year after federation) was £825,000; by 1913 the totals were, respectively, about £1,500,000 and £5,166,000. In 1937 the revenue of all M. was about £18,000,000, made up of just over £4,000,000 from the Straits Settlements, £8,750,000 from the Federated and about £5,000,000 from the Unfederated Malay States. The relative prosperity of M. compared with other Brit. colonial dependencies may be judged from the fact that in 1937 the revenue came to over £3 15s. per head of the pop., while in other

dependences it averaged just over £1. Expenditure on public works was in 1937 five times what it was in 1918, and that on public health, education, and agriculture three times. Malayan trade of £121,300,000 in 1938 came to more than the total trade of New Zealand, more than all the trade of the seventeen Brit. African colonies together, and more than half the trade of the Indian Empire. M.'s best customer was the U.S.A., which in 1938 bought 40.7 per cent of her rubber and 54.9 per cent of her tin, while Great Britain bought 18.7 per cent of the rubber and 6.8 per cent of the tin. Other customers were France, Germany, Holland, Italy, Dutch E. Indies, and Japan. In 1926, a peak year, the motor industry's demand for tin and rubber had made M.'s trade soar to £264,000,000, or more than half that of all the other Brit. colonies put together. The 345 ac. under para rubber in 1897 had increased by 1937 to 3,302,000 ac., of which 2,026,000 were owned by estates and the rest by Asiatic small holders. Having an adequate revenue at its disposal, the gov. of M. was able to develop health and education to a point attained perhaps nowhere in the E. except in Japan. This was the more remarkable because till 1867 the colony was a Cinderella of India, and till 1874 the Malay States were the scene of barbarous anarchy (Sir Richard Winstedt). It was by its preventive medicine and its sanitary services that M. won special praise. An Institute of Medical Research, estab. at Kuala Lumpur in 1900, acquired international fame for its investigation of beri-beri, Jap. riv. fever, tropical typhus, leprosy, and yaws. From time to time it was assisted by researchers from the Rockefeller Foundation, e.g. in the treatment of hookworm and malaria; while as early as 1901 the gov. employed with great success the then recent (1897) discoveries of Sir Ronald Ross to combat malaria (q.v.), the chief cause of mortality in the tropics. As regards education it may be mentioned that in 1947-48 more children attended school in M. (as well as in Singapore and the Borneo ter.) than over previously. The univ. of M. came into existence in Oct 1949.

History.—N. M., containing Kedah and Kelantan with the oldest Malay pops., formed part of a big Buddhist empire, Sri Vijaya, which for five centuries dominated the straits of Malacca. Little is known of this empire, but from its later days down to the Brit. period M. was seldom at peace. In the fourteenth century Majapahit, the last Hindu kingdom of Java, finally broke the power of Sri Vijaya, and then itself suffered from the aggression of the Siamese, both in M. and in its ter. of Java and Sumatra, and from the tidal wave of Islam which thereafter became the chief spiritual force in the Malay world. Singapore too was lost to Majapahit and utterly destroyed. A fugitive Malay prince from Singapore founded a port kingdom at Malacca which was to become so famous that on the continent M. is still known as the Malacca Peninsula, and for about a century Malacca

was governed by Malay sultans whose sway extended over the Malay Peninsula and Sumatra. In 1511 Malacca was conquered by Alfonso d'Albuquerque and became the centre of Portuguese trade in the far E. When, however, Portuguese power declined Malacca was captured in 1641 by the Dutch, becoming merely a prov. governorship, the Dutch E. India Company's headquarters being in Java. In 1795 an alliance between Holland and France moved England to take over Malacca as a naval base. England held Malacca till 1818 when it was restored to the Dutch, only to be ceded to England again in 1824. D'Albuquerque's conquest of Malacca had disrupted the loosely knit Malay Empire, though under the name of Johore its last fragments cohered for three centuries, until the partition of the Malay world into Dutch and Eng. spheres covered Pahang and Johore from the is. cap. at Lingga (S. of Singapore) and left those two states to the rule of ministers who made themselves sultans. Among other Malay peoples whose disruptive influence was felt in Malayan hist. down to the Brit. period were the Bugis of Macassar, who, towards the end of the seventeenth century estab. themselves in Selangor, and in 1722 became *de facto* rulers of the Johore Empire with headquarters at the is. of Rhio. Weakened by conflicts between Bugis and other Malays, the sultan of Johore lost his hold over the modern Negri Sembilan (q.v.), which in 1773 seceded from his decaying empire to form a separate confederation. Between the Bugis and their rivals, the Minangkabaus gave the death-blow to the Malay Empire, which still comprised the Rhio-Lingga archipelago, Johore, and Pahang (q.v.), and thereby paved the way to Brit and Dutch infiltration into the Malay Peninsula. Fear of the Bugis from Selangor (q.v.) led the sultan of Kedah (q.v.) in 1786 to lease to England the is. of Penang, the first of the three settlements of Penang, Singapore, and Malacca, to be known later, collectively, as the Straits Settlements (q.v.). The chief figure in the negotiations over Penang was Francis Light, an ex-naval officer but at this time a trader, and the chief factor in the acquisition of Penang was England's need of a naval base on the E. shore of the bay of Bengal. On Aug. 11, 1786, Light hoisted the Brit. flag on Penang, calling it Prince of Wales Is. Later the sultan of Kedah, in the vain hope of a defensive alliance, also ceded a tract on the mainland named Prov. Wellesley after the future duke of Wellington, who had reported against abandoning the settlement of Penang. The acquisition of Penang was not entirely creditable, for even if it had not broken its pledge, the E. India Company had stood by and allowed Light to take Penang by an implicit assurance to Kedah of military protection. However, the Malays soon forgot the method of this acquisition in the enjoyment of the prosperity which followed free trade.

Singapore was acquired in 1819 through the foresight of a Bengal official, Thomas Stamford Raffles, the greatest figure in

Brit. Malayan hist. When Java in 1811 capitulated to a Brit. expedition, the governor general of India, Lord Minto, appointed Raffles its lieutenant governor, in which office he effected notable reforms, including the abolition of slavery and torture and the introduction of an equitable land system. When Java was retroceded to the Dutch Raffles was posted to Bencoolen and from there, with the approval of the new governor general of India Lord Hastings, sought a new trading station S. of Malacca. His difficulties were enhanced by the London Convention of 1814 which returned their old possessions to the Dutch, for it was not clear whether these also included Rido,

stalked sultan of Johore in 1819, agreements were made to allow the Eng. to lease land for trading factories, and in 1821 a final treaty was concluded between Husain, the Temenggong, and the Brit. abdicating Singapore to the Brit. for ever a treaty which was destined to convert a mangrove swamp into one of the world's greatest ports and to change Johore from forest and jungle into a prosperous state. Under the same treaty Britain took over Malacca while the Dutch received Sumatra.

The is. of Pangkor and the Simbilan Is. were ceded to Great Britain by Perak in 1826, for the suppression of piracy. In 1874 the cession was confirmed by the



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TIN MINING, PERAK HYDRAULIC MINING

Jingga, Johore and Pahang, though the Dutch had admitted that they did not. Raffles, however, was instructed that he might only establish a centre at Lhio if the Dutch did not anticipate him and in the same context it seemed to be admitted by his superiors that Malacca too was Dutch. Eventually Raffles, thwarted by confusing instructions and the jealousy of the lieutenant governor of Penang who was anxious to any rival settlement came in 1818 upon the almost uninhabited mangrove is. of Singapore where at least there were no Dutch. Raffles's difficulty now was to find a ruler from whom title might be derived, especially as the reputed ruler, Abdur-Rahman, claimed to be ruler of Lingga only and not of Johore. Hence Raffles installed the latter's brother, Husain, who had married a daughter of the Temenggong of Johore, as the successor to his father Sultan Mahmud, so that Husain could give him a legal title to Singapore, and the Temenggong abetted him (see Sir R. Winstedt *Britain and Malaya*, 1944). Husain was duly in-

stalled sultan of Johore in 1819, agreements were made to allow the Eng. to lease land for trading factories, and in 1821 a final treaty was concluded between Husain, the Temenggong, and the Brit. abdicating Singapore to the Brit. for ever a treaty which was destined to convert a mangrove swamp into one of the world's greatest ports and to change Johore from forest and jungle into a prosperous state. Under the same treaty Britain took over Malacca while the Dutch received Sumatra.

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E. India Company was abolished, though at least its occasional firmness in foreign policy had saved most of the Malay Peninsula from subjugation by Siam. With the abolition of the E. India Company the Straits Settlements fell automatically under the India Office for a brief space. Then, in 1867, the Brit. Gov., bowing to local agitation, approved their transfer to the Colonial Office.

The next period in the hist. of M. was the gradual institution by treaties of the Brit. protectorate over the Malay States between 1874 and 1914.

From 1786 (acquisition of Penang) for the ensuing 100 years or more the Brit. Gov. made various protectorate, boundary, and commercial treaties with the W. Malay States, but always disavowed any wish to become implicated in the affairs of these states. But bitter discussions arose in M., especially over the question of the succession to the throne in a number of states, and for twenty years after 1857 M. was torn by civil war with consequent loss of trade, while piracy was rampant in the straits of Malacca. Serious faction fights occurred among Chinese miners in Perak. Sheer anarchy compelled the Brit. Gov. to intervene. In Nov. 1873 Sir Andrew Clarke came to Singapore with the task of reporting what steps should be taken by the colonial gov. (Straits Settlements) to promote the restoration of peace and order, and especially to examine the question of appointing a Brit. officer to reside in any of the states. Within a year Clarke had placed Brit. advisers in Negri Sembilan, Perak, and Selangor. The first resident of Perak, James Birch, used his powers under the Pangkor Treaty to collect taxes. His proposals naturally excited hostility among the Malay chiefs. Still more were they opposed to Birch's policy of helping slaves, and particularly debt-bondsmen, to escape, without offering compensation to the owners for their lost feudal perquisites. In view of this provocation it is hardly surprising that Birch was assassinated, though in the ultimate result debt-slavery was abolished, for the next resident, Sir Hugh Low, saw that to govern through fear was both impolitic and costly. He therefore made the chiefs into local headmen to replace an expensive and unsuccessful police and at the same time compounded the matter of their feudal perquisites by allowing them a 'commission' on the taxes they collected. In this way the Perak war was ended. At this time, too, the Brit. Gov., adopting the provisions of the Indian Councils Act, 1861, set up legislative councils with 'unofficial' as well as official members and executive powers were added to the legislative powers of these Malay councils. The sultan of Perak became president of a state council, which, assuming both legislative and executive powers, has served as a model to recent times. On it sat also the resident, the leading Malay chiefs, and representative Chinese. Clarke also turned his attention to the pirate lairs of Selangor, which had involved that state's reactionary sultan in war with the

prince of Kedah and his ally, the ruler of Pahang. In the end the Selangor chiefs voiced the prevailing Malay desire for a Brit. resident and one was duly appointed at the end of 1874, and, in the same year, a Brit. superintendent was appointed in Sungai Ujong (*see* NEGRI SEMBILAN). Now, however, Britain was averse to sending any more residents until sufficient time had elapsed in which to test the experiment. In 1880 the nine petty interwarring states of old Negri Sembilan were at length induced to form a confederation, compose their differences, and accept one resident for the whole confederation. Pahang too had been ravaged by civil war; for thirty years (1857-87) taxes and monopolies imposed a crushing burden on the people. The ruler gave away land to European and Chinese miners regardless of the rights of previous prospectors, landowners, or peasants. He too accepted a Brit. agent (1887) and assumed the title of sultan; but murders and executions continued for some time, and indeed the last civil 'war' in M. was only ended in 1895 when the four states of Perak, Selangor, Negri Sembilan, and Pahang formed themselves into a federation. In 1909 by a further agreement a federal council was constituted. By a policy of decentralisation, approved by the imperial gov. in 1933, the state govts. resumed a greater measure of control over local affairs.

By a treaty of 1909 Siam ceded to Britain all suzerain rights over the Unfederated states (Kedah, Kelantan, Trengganu, and Johore) in consideration of the abolition of consular jurisdiction in Siam. Under this, the Bangkok Treaty, the Federated Malay States were to finance Siam's construction of a railway through Siamese M. to link up Bangkok with Penang, Kuala Lumpur, and Singapore. In 1885 the sultan of Johore agreed to provide a residence for a Brit. consular agent. By 1911 misrule had made the administration too complicated for untamed Malay minds and the sultan asked for a general adviser. Thus, within four decades, from the Siamese frontiers down to Singapore, the Malays had thrown in their lot with Britain (Sir Richard Winstedt).

Constitutionally the gov. of M. throughout the seventy years before the Second World War was anomalous, in the sense that there were marked political divergences between the Malay States and the Straits Settlements which reflected the differences between a crown colony and a protectorate created by treaty. Under the Brit. reign the ruler or sultan of a Malay state remained *de jure* an independent sovereign, even though he had surrendered his political independence. Unlike the ordinances of a crown colony such as the Straits Settlements, the laws of the Malay States were not subject to the Crown veto; they required only the consent of the Malay rulers. In brief the Colonial Office directed the administration of the Straits Settlements but 'advised' the govts. of the different Malay states. In spite of differences in language the

treaties with the Unfederated states had the same purpose as those made with the Federated Malay states: viz. that each state should seek and act upon Brit. advice in all matters not touching Malay custom and religion. But unlike the other Unfederated Malay states, Johore had a written constitution dating from 1895, which provided for a council of Malay ministers (without executive powers), an executive council, and a council of state (corresponding to a legislative council) presided over by the Malay Prime Minister; whereas all the other states had only the usual state council. The position of an adviser in an Unfederated Malay state differed from that of the resident in a Federated state. For the Malays of some of the Unfederated states were educated persons and had administered their own states before calling for Brit. assistance, whence it was but just to consult them and allow them to continue to take part in administration. None of these comparatively new states was willing to join the existing federation or surrender any part of its administrative autonomy to any federal body or association. Each passed its own laws, albeit copied from the laws of the federation. No scheme of 'centralisation' deceived them; the 'bait of a united Malaya' was dangled before them in vain' (Sir Richard Winstedt). That consummation was indeed destined only to be achieved through the pressure of events, during and following the Second World War when first a Malayan union and then a federation of M. came into existence. For events in M. during the Second World War are MALAYA, BRITISH, JAPANESE INVASION OF 1941-42).

After the Second World War it was realised by the imperial gov. that the divided and separatist position of the administration in a country scarcely larger than England, however appropriate as a necessary and useful stage in the political development of the Malay States, was no longer adapted to the complexity of modern administrative and economic developments. A stage had been reached when the system of government should be simplified and reformed. Moreover international relations, as well as the security and other interests of the Brit. Commonwealth, required that M. should be able to exercise an influence as a united and enlightened country appropriate to her economic and strategic importance; while, on the other hand, the Brit. Crown should provide the common link which would draw together the communities of M. and promote a sense of common interest and the development of common institutions. Accordingly Sir Harold MacMichael, as special representative of the imperial gov., was sent on a mission to the Malay States, with whose rulers he concluded an agreement to supplement the existing treaties. Under these agreements it was proposed that the existing combination of the Straits Settlements of Penang, Malacca, and Singapore in one political unit should be readjusted as follows: the settlement of Singapore

should be a separate colony, and the settlements of Penang and Malacca should be administered with the Malay States in a Malayan union. These proposals were to be carried into effect, so far as the Malay States were concerned, under the Foreign Jurisdiction Act, 1890, and, as regarded the Straits Settlements, under a projected Straits Settlements (Appeal) Bill. The policy of the imperial gov. was 'to promote a broad-based citizenship which would include, without discrimination of race or creed, all who could establish a claim, by reason of birth or residence, to belong to the country'; and it was therefore proposed to create by order in council a Malayan union citizenship. There was also to be instituted a supreme court of the Malayan Union and a supreme court of Singapore. Finally the co-ordination and direction of the policies of the gov. as between the Malayan Union and Singapore were to be achieved through a governor-general (Cmd. 6724, 1946). But before this policy could be implemented there was considerable agitation in M. among the rulers. In the result a committee representing the Malayan Gov., Malay rulers, and the United Malays' National Organisation was appointed in July 1946 to draft a new constitution of M. Its report, while giving the central gov. of the projected Malayan Federation most of the wider powers it claimed under the original union plan, marked an appreciable advance in M.'s political development and gave full scope for further development. It stipulated the necessity of elections to the central legislature as soon as possible, made Malayan citizenship attainable by any immigrant who had lived in the country fifteen years and genuinely regarded it as his home, and provided machinery by which Singapore (or any of the Brit. ters. in Borneo) could enter the federation. In 1949 federation had been functioning for more than a year and, like all federal constitutions, was not an easy piece of machinery to work. But (apart from Penang's petition in July 1949 for secession from the federation and restoration to crown colony status) friction with the central administration was only serious in the case of one state, Johore, whose attitude generally was not constructive. But the citizenship question, the racial relationship, remained paramount, and it was evident that to achieve any permanent improvement the Malays must be willing to share more political and administrative power and the Chinese to share more economic power. The basic reasons for the difficulty of the racial question (which in its long-term implications is of much greater importance than the suppression of the Communist rising, the future of rubber and tin, or imperial strategy in S.E. Asia and the Indian Ocean) are that the two elements differ in almost every major particular—in temperament, in economic function, in religion and language, and in degree of education. These differences no doubt existed before the Second World War, but the general level of prosperity and

well-being in M. then was such that they were forgotten, whereas the effect of the Communist rising has been to accentuate the differences still further, especially as the bandits were nearly all Chinese and the Malay pop. regarded the movement as essentially Chinese. Despite the Communist campaign of violence in M. rubber production reached a record level in 1948; the rice crop was the highest on record, and tin production was above 1939 levels.

Malayan Communist Rising.—Outbreaks of terrorist violence in the ters. of the Malayan Federation began early in 1948. These were subsequently found to be part of a Communist plot to overthrow the existing system of administration. An Emergency Powers Bill was passed in M. on July 5 and, on Aug. 23 the Communist party was outlawed. At about the same time the United Kingdom Gov. decided to send out the 2nd Guards Brigade with detachments of auxiliary troops. The spearhead of this rising was composed of Chinese Communists, many of them recent immigrants in sympathy with the Communist campaign in China, who launched their own campaign of murder and sabotage to subvert the administration and set up a Communist state. The victims were principally Chinese, but brutal outrages were also directed against European managers of mines and rubber plantations. The original plan to seize power was thwarted by the staunchness of the Brit. and Malay officials, the heroism of the European business and commercial community, and, above all, the grim determination of the Malays to prevent their country being seized against their will by a Chinese faction. After some initial hesitation, due to a want of appreciation of the extent and seriousness of the rising, the organisation of local security forces, the reinforcement of the fighting services, and the employment of emergency measures broke up the Communist rebels into isolated bands. The task of overcoming these bands, however, was to prove long and difficult, though by the early summer of 1949 the position showed a marked improvement. In view of the failure of their original rising the Communists had to consider a change of tactics or bide their time, but their objective—the seizure of power and the imposition of a Chinese-dominated regime—remained constant. Until this hard core could be physically eliminated from the confines of M. there was no ground for complacency. But a better appreciation of the problem was gained through an understanding of the character of the Communist movement in M., of which there were two main branches: the armed wing in semi-military formations, partially uniformed, formerly the Malayan People's Anti-Jap. Army, now renamed the Malayan People's Anti-Brit. Army, and an elaborate civilian organisation that dealt with propaganda, supplies, intelligence, and communications. To this civilian branch belonged many of the *Loi Tung Tai*, or 'killer squads,' groups of ten or a dozen men who were responsible for many of the murders of Kuomintang

officials and schoolmasters, suspected informers, and who blackmailed merchants. Directing the whole campaign was the central executive committee of the Malayan Communist party, which issued directives to the various state committees. In March (1949) a process had begun of withdrawing the Malayan People's Anti-Brit. Army from the coastal dists. and concentrating them in a few remote and inaccessible regions of the peninsula. These, however, were at least kept on the run; for the troops, Brit., Ghurka, and Malay, had gained greatly in experience and efficiency in this arduous and monotonous type of operations against determined bandits, whose most threatening areas were now in the dist. round Temerloh in W. Pongang and the Siamese frontier, especially that salient of Siam which juts into Perak and Kedah. Of the many measures taken by the civil authorities those aimed at controlling the squatter problem was most effective; for some specially notorious communities were shifted in toto and hundreds of Chinese sent back to China. Although Malayan bandits were now at bay it had to be borne in mind that the emergency must be viewed in its S.E. Asian context; for as long as rampant Communism prevailed in S.E. Asia there could never be the same settled conditions or the same degree of physical security for Asiatic and European alike as before the Second World War.

See Sir R. Winstedt, *Malaya* (handbook), 1923; *Britain and Malaya, 1786-1911, 1944, and Malaya and its History, 1948*; H. M. Tomlinson, *Tidemarks, 1924*; L. A. Mills, *British Malaya, 1824-67, 1926, and British Rule in Eastern Asia, 1912*; C. Wells, *Six Years in the Malay Jungle, 1927*; Sir H. Clifford, *In Court and Kampong, 1927*; C. M. Enriquez, *Malaya: People, Flora and Fauna, 1927*; L. H. Wheeler, *The Modern Malay, 1928*; R. O. Winstedt, *Malaya, 1928*; A. Gibson, *The Malay Peninsula, 1928*; P. Schobreta, *Among the Forest Dwarfs of Malaya, 1929*; Sir F. Swettenham, *British Malaya, 1929, 1930, 1940, and Footprints in Malaya, 1942*; It. Emerson, *Malayana: a Study in Direct and Indirect Rule, 1937*; I. Evans, *The Nephros of Malaya, 1937*; and Royal Institute of International Affairs, *The Chinese in Malaya, 1945*. Also Ann. Reports on the Federated Malay States (London).

Malay Archipelago, see MALAYA and EAST INDIES.

Malaya, British, Japanese Invasion of (1941-42). The Jap. force, having rapidly overrun Fr. Indo-China and Siam (Thailand), invaded Brit. M. on Dec. 8, 1941. Their immediate objective was Singapore, but the ultimate aim was to secure the resources of Sumatra and Java and even to conquer India. The enemy's operations were facilitated by the fact that he held command of the seas in the Pacific, having treacherously raided Pearl Harbour from the air without declaring war and sunk the Brit. battle cruisers *Prince of Wales* and *Repulse* early in the month. Thus he was able to land troops in any number with impunity almost

anywhere. Yet his progressive occupation of the peninsula was effected only at heavy cost. The imperial forces, Brit., Australian, Indian, and Malayan, made a gallant resistance and proved that, on anything like equal terms, they were more than a match for their assailants; but they were always heavily outnumbered, both on land and in the air, and, moreover, had to contend with much superior mechanised forces. In the early part of the campaign in N. M. Jap. tanks played a secondary part, coming into action only after advance troops had prepared the way; but later, as the ground favoured mechanised operations, tanks were employed as the spearhead of the attack, in the familiar tier manner. The Jap. success on land was largely due to the initial element of surprise, and also to the very strong forces of shock troops which they were able to mass at Singapore for their attack down the Malay Peninsula. By the bombing of the Brit. advanced aerodromes, and by attacks on aircraft there, the enemy was able to establish mastery in the air in N. M. within the first twenty-four hours of battle. From that moment a defensive strategy of controlled withdrawals seemed to be the only feasible course for the imperial forces. Moreover the Jap. infiltration tactics were disconcerting even to troops trained for operations in jungle and rubber country. The a Ivance of the main Jap. forces into Kedah, Kelantan, Trengganu, and Perak, which states were all soon overrun, was much assisted by this infiltration from both the E. and W. coasts, troops being landed from vast numbers of sampans and other small craft, which made effective use of the shallow coastal waters where no naval forces, even had they been available, could penetrate. The squadrons allocated for the defence of Singapore could not be risked in the battle in the S. With the co-operation of the army and air forces of the Netherlands E. Indies, bombing sorties were carried out almost daily, but with comparatively minor inconvenience to the enemy. Harassed on their flanks and in the rear, the defending forces, attacked from all sides at once, and bombed ceaselessly from the air, became fatigued with constant watching and steadily fell back to ill-prepared positions further S. Sev. bodies of the defenders were encircled and had to fight their way out again to re-establish contact with the main bodies. The peninsula is remarkable for its jungle, and it was hoped that their familiarity with the tangled and difficult ways through these jungles might confer some advantage on the imperial forces; but it was soon evident that the enemy, aided by fifth columnists, was equally familiar with every jungle track. The Jap. showed themselves, too, to be able fighters in this type of country, hacking their way through the jungle between and behind the defenders' lines and wading and swimming fully equipped through crocodile-infested rivers, as if they had been fully trained for such warfare. Alor Star (cap. of Kedah), Kota Bharu

(cap. of Kelantan), and Kuala Trengganu (cap. of Trengganu), quickly fell to the enemy. Then followed fierce fighting for the Kuantan R. in Pahang; but after its passage had been forced that state too was overrun. Thus after four weeks of fighting in N. M., the imperial forces had withdrawn from the all-important Kedah and Siamese borders to those of Perak and Selangor and to positions at Kuantan on the E. coast. This constituted a major reverse; for one of the world's richest tin-mining areas, many hundreds of ac. of rubber country, iron mines, and other valuable natural resources had fallen to the enemy, who had meanwhile also seized the is. of Penang, useful as a base for air and sea operations against Sumatra and into the Indian Ocean. By Jan. 6, 1942, the Brit. forces had left the Kuantan area, while the Jap. were in occupation of the valuable Kuantan aerodrome, though only after bitter resistance by the Australian troops. From Ipoh, the important rubber centre of Perak, the invaders soon swarmed over lower Perak; and Penang, having, as stated above, been captured, their control over this narrow seaway along the W. coast was complete. Having now crossed into the state of Selangor they were threatening the important city of Kuala Lumpur, cap. of the Federated Malay States and second city of all M. (see also KUALA LUMPUR). Kuala Lumpur was evacuated in the second week of Jan. and with it went control of Port Swettenham. A week later the imperial forces withdrew to positions S. of Kuala Lumpur, which the Jap. now occupied (Jan. 11). The enemy's land and air forces closely followed up the Brit. withdrawal and the battle continued fiercely N. of Seremban. The retreat from Kuala Lumpur was forced on the defenders by lack of air support, the Jap. use of tanks, and through their overwhelming fatigue from weeks of continuous fighting under hopeless conditions. This form of warfare required extremely strong nerves, for even where the tanks are threatened troops should be reasonably certain of safety in their rear. Even at night, day all around and the men were liable to be cut off at any moment of the day or night. Guerrilla tactics behind the Jap. lines were adopted but proved only partially effective. By Jan. 17 the enemy had secured a foothold on the S. bank of the Muar R., S. of Malacca on the W. coast of the peninsula. In the following week the Jap., pushing on through the states of Selangor and Negri Sembilan, past Malacca, consolidated new positions in Johore, the southernmost state of the peninsula, on the W. coast of the Muar R. Here there was protracted and most bitter fighting, but always the defenders fell back before overwhelming numbers. On the E. coast, having made themselves masters of Pahang, the invaders intensified their operations in Johore. The weary Brit. and Indian troops, still resisting with unmounted courage, withdrew further S. and joined up with the Australians, who had been kept in reserve in Johore. With ever increasing air

support from Singapore, the imperial forces inflicted heavy losses on the enemy and their hopes of holding up the Jap. advance were renewed. But soon the crushing weight of the invader's numbers, coupled with their methods of infiltration, forced the imperial forces to yield further ground and, on the last day of Jan., the mainland was abandoned and the defence concentrated on Singapore Is., a forlorn hope, for the great fortifications there were designed solely as a naval base and were not adapted to defence from the landward side, a contingency which had never been dreamt of.

The enemy, however, had not escaped severe punishment. After Jan. 18, when the Jap. had landed at Butu Pahat on the W. coast only 65 mi. from Singapore and infiltrated southwards from Muar, compelling the Indian troops to fall back, Australian troops beat off sev. attacks and destroyed a number of Jap. tanks. But the enemy abstained from a direct frontal assault preferring infiltration, combined with nocturnal landings on the Brit. flanks. On Jan. 21 Singapore was raided by about 100 planes, 13 being shot down, but nearly 300 persons were killed and over 500 injured, the bombing being indiscriminate. Numerous raids were made subsequently, but many were successfully intercepted by Brit. Hurricane fighters, and altogether by this date the enemy had lost at least 120 planes. For some days the imperial forces succeeded in holding positions at Kluang and at Batu Pahat in S. Johore, but this latter place was taken by the enemy on Jan. 25. The imperial forces were withdrawn from the Malayan mainland on the night of Jan. 30-31. A part of the famous causeway to Johore Bahru, carrying rail and road traffic, was blown up by Brit. soldiers and the siege of Singapore began. The operation of withdrawal was covered by a gallant final stand S. of Kulai (some 18 mi. from the causeway) by the Gordon Highlanders, Argyll and Sutherland Highlanders, and Australian troops, who inflicted great losses on the enemy.

There was an ominous lull, apart from minor air raids, for some days. But on Sunday night (Feb. 8) the enemy landed on the Is. in force, occupying a 10-mi. stretch of coast in the N.W. of the Is. The Brit. forward troops were pressed back and the landing parties filtered eastwards, their progress being preceded by a very heavy artillery barrage on the N. part of the Is. The barrage lasted throughout the day and night of the 8th—one uninterupted roar shaking every window in the city. Further landings were made on the 10th, accompanied by continuous dive-bombing and machine-gunning by Jap. aircraft. Hurricanes offered a gallant resistance, but there were very few machines. Big fires raged on Feb. 9 on the N. part of the Is. like an angry sunset before a storm, gusts of wind fanning the flames to great heights. Next day the Jap. drive was directed on Singapore city itself, the advance being pressed home with tanks and considerable bomber and fighter support. The enemy was repulsed and dropped a note from the

air, addressed to the Brit. commander, demanding unconditional surrender. Fierce resistance, however, still continued outside the doomed city and sev. quite successful counter-attacks were made. Guns of Brit. naval vessels rendered some aid to the garrison, firing on the causeway and the S. shore of Johore. The next day Singapore was heavily shelled and dive-bombed again. The fighting now reached the more southerly of the two main reservoirs. The enemy also made a successful move to cut off the Seletar naval base. As at Hong Kong, so here, the cutting of the water supply was the prelude to the end. On Feb. 15 the garrison was forced to capitulate unconditionally. Some 60,000 imperial troops—Brit., 15,000; Australian, 13,000; Indian, 32,000—were made prisoner, and a large amount of material was also captured. Singapore was regained on Sept. 3, 1945, following the surrender of Japan. See F. S. Chapman, *The Jungle is Neutral*, 1948, and A. E. Percival, *The War in Malaya*, 1949.

Malay-Polynesian Languages, see under LINGUISTIC FAMILIES.

Malays (properly Malayus, Malay word, the derivation of which has not yet been satisfactorily ascertained) is the name given, in a restricted sense, to the inhab. of the Malay Peninsula, and used to denote, not only these, but also the inhab. of the large and small, of the Indian Archipelago, of Malacca, and of the numerous Is. of the Pacific. In physical appearance the M. are a brown-complexioned race rather darker than the Chinese, but not so swarthy as the Hindus. They have long, black, shining, but coarse hair, little or no beard, a large mouth, eyes large and dark, nose generally short and flat, lips rather thicker than those of Europeans, and high cheek-bones. In stature the Indo-M. are for the most part below the middle height, while the Polynesians generally exceed it. The Indo-M. have also slight, well-formed limbs, and are particularly small about the wrists and ankles. Such is the general appearance of the M. proper, or inhab. of the peninsula and Indian Is. But these also have their sub-divs. There are the civilised M., who have a written language, and have made some progress in the arts of life; there are also the *orang-laut*, literally 'men of the sea', a kind of scapulars or robbers; and the *wang-banua* or *orang utan*, 'wild men' or 'savages', dwelling in the woods or forests, and supposed to be the aborigines of the peninsula and Is. 'These three classes of Malays,' says Cratford, 'existed nearly three centuries and a half ago, when the Portuguese first arrived in the waters of the Archipelago, just as they do at the present day. That people describe them as having existed also for two centuries and a half in fore that event, as, without doubt, they did in times far earlier.' Still, while so widely differing in habits, all these speak essentially the same language. The M. are essentially Islanders, and have much of the daring and enterprise for which nations familiar with the sea are

famous. Their original seat is by themselves stated to have been Menangkabo, in the is. of Sumatra, rather than the peninsula itself. Even the M. of Borneo claim to have had a Menangkabo origin. Palembang, however, also in Sumatra, has been mentioned as the original seat of Malay civilisation; and others, again, point to Java as the source from which both Menangkabo and Palembang received their first settlers. The Javanese would seem to have been even the founders of Malacca. Monuments, which prove their presence in the country of the M., have been discovered.

The Malay language is simple and easy in its construction, harmonious in its pronunciation, and easily acquired by Europeans. It is the lingua franca of the E.



E.N. 1.

A MALAY WOMAN OF PENANG

Archipelago. Of its numerous dialects the Javanese is the most refined, a superiority which it owes to the influence upon it of Sanskrit literature. Many Arabic words have also been incorporated with it, by means of which the Javanese are able to supply the deficiency of scientific terms in their own tongue. The civilised M. are Moslems, having embraced that faith in the thirteenth or fourteenth century. The tribes in the interior and the 'men of the sea' have either no religion at all, or such as can be regarded only in the light of most debased superstition. The moral character of the Indo-M. generally does not stand high; they are passionate, treacherous, and revengeful. Although good sailors and able to amass wealth by legitimate commerce, they prefer piracy. See H. Clifford, *Studies in Brown Humanity*, 1895; W. W. Skoat, *Malay Magic*, 1900; W. E. Maxwell, *A Manual of the Malay Language*, 1907; A. Wright and T. H. Reid, *The Malay Peninsula*, 1913; Sir H. Clifford, *Malayan Monographs*, 1913; Sir R. O. Winstedt, *Malayan*

Memories, 1916, and *Malay Grammar* (2nd ed.), 1927; and L. R. Wheeler, *The Modern Malay*, 1928. See also bibliography under MALAYA.

Malbaie, see MURRAY BAY.

Malbork (formerly Marienburg), tn. of Poland, formerly known as Marienburg in the prov. of E. Prussia (q.v.). It is 35 m. S.E. of Gdansk (formerly Danzig), and situated on the Nogat, a channel of the Vistula. As Marienburg it was famous as the seat of the grand masters of the Teutonic Knights, transferred hither from Venice. The Marienburger Schloss became one of the largest and most strongly fortified buildings in Germany, but after it had passed into the possession of the Poles in the fifteenth century it was allowed to fall into decay. In 1773 the tn. passed to Prussia and the castle was restored at the beginning of the nineteenth century. Before the Second World War it had mills, of agric. machinery, saw mills, flour sugar, etc. The tn. was captured by the Russians in 1945 after fierce fighting which left the famous Gothic castle practically in ruins, together with the cathedral and the city of M. itself. It took the knights about a century to build the massive schloss regarded as the largest and strongest in medieval Europe, with walls 10 to 15 ft. thick and quarters for a garrison of 10,000 men. Half of it was destroyed in the few weeks' siege by the Russians. What was left testified to the architectural and engineering skill of its builders; for the castle was provided with fittings, such as a system of steam heating in the floors, lifts to convey the food to the refectory, wells to provide water for the top floor and a mill to grind the flour, all constructed in a manner that could hardly be bettered by modern engineers. Attempts were being made in 1948 to preserve what remained of the castle. Pop. (1939) 12,000.

Malchin, tn. in Mecklenburg, Germany, dating from the thirteenth century, situated about 2 m. E.S.E. of Gadow on the Peene, which runs into the Rostock Bay. Pop. 7200.

Malcolm I. (Macdonald) (d. 954), king of Scotland, succeeded to the crown in 943. He made a treaty with Edmund the W. Saxon king in 945, and renewed it with his successor, Eadred, but in 950 the Scots made a foray to the Tees. Eventually, however, they were unable to stay the progress of the W. Saxons, and in 954 Northumbria was lost and M. slain.

Malcolm II. (Mac Kenneth) (d. 1031), king of Scotland, son of Kenneth II., succeeded in 1005 by defeating and killing Kenneth III. In 1018 he won a great victory over the Adulf Cudel, which led to the cession of Lothian to the Scottish kingdom and about the same time Cumbria N. of the Solway became an appanage of the kingdom. In 1031 M. did homage to Canute.

Malcolm III. (called Canmore) (d. 1093), king of Scotland, succeeded his father, Duncan I., after the defeat of Macbeth by Earl Siward of Northumbria in 1054. He married Margaret, sister of Edgar Atheling, and did homage to the Eng. kings in

1072 and 1091. He was treacherously slain while invading Northumberland. See Jane Oliver, *Sing. Morning Star* (novel), 1949.

Malcolm IV. (the Maiden) (1141-65), king of Scotland, succeeded his grandfather, David I., in 1153. He surrendered Northumberland and Cumberland to Henry II. in 1157, and received in return Huntingdon. He served with the Eng. forces in the expedition against Toulouse (1159), and as a result encountered rebellions in Scotland (1160-64).

Malcolm, Sir John (1769-1833), Indian administrator and diplomatist, b. at Burnfoot in Scotland. In 1798 he was appointed by Lord Wellesley assistant to the resident at Hyderabad. He was envoy to Persia (1800, 1807, 1810); private secretary to Wellesley (1801-2); political agent to Wellesley during the Maratta war (1803-4); governor of Bombay (1826-30); and M.P. for Linnecston (1831-32). He wrote *Political History of India* (1811); *History of Persia* (1815); *Administration of India* (1833); and *Life of Clive* (pub. 1836).

Malcomia, a genus of crucifers, of which the best-known species is *M. maritima* (Virginian stock), a valuable garden plant with numerous varieties of various colours, giving a lengthy succession of bloom.

Malczewski, Antoni (1792-1825), Polish poet. During the Napoleonic wars he served as a lieutenant of engineers in the Polish contingents of Napoleon's army. He took part in the heroic defence of Modlin against the Russians. In 1818 he was one of the first to accomplish the ascent of Mt. Blanc. He subsequently returned to Poland, where he managed an estate in the country, but devoted most of his time to his literary work, which took the shape of one big narrative poem, *Maria* (1825). As a poet M. links Polish literature with the romanticism of the W. of Europe and, particularly, with that of England. In many ways his great poem was inspired by Byron. The descriptions of a battle between Poles and Tartars, the vast loneliness of the steppes, the wild gaiety of a carnival, are all famous in Poland. See life by J. Ujejski, 1922.

Malda, dist. in W. Bengal, India. Agriculture is carried on and silk, indigo, and mangoes are produced. The Mahananda R., a trib. of the Ganges, flows through the centre of the dist., upon which is situated the tn. of M., the cap. Pop. (of dist.) 1,233,000.

Maldegem, tn. of Belgium in the prov. of F. Flanders, 17 m. N.W. of Ghent, engaged in agriculture, tree-nurseries, and manufs. of lace, baskets, and leather. Pop. 12,500.

Malden: 1. Par. and vil. of Surrey, England, on the R. Hogsmill, about 3 m. from Kingston-on-Thames. Berton College, afterwards removed to Oxford, was founded here in 1264 and still owns property in the dist. Pop. (with Coombe) 38,800. 2. City of Middlesex co., Massachusetts, U.S.A., on the M. R., 5 m. N. of Boston. It is noted for the manuf. of rubber boots and shoes; chemicals,

leather goods, and furniture are also produced. Pop. 58,000. 3. Is. in the S. Pacific which has an active trade in guano. It was taken possession of by Britain in 1861. Area 35 sq. m. Pop. 150.

Maldivé Islands, group of twelve coral is., in the Indian Ocean, 400 m. S.W. of Ceylon which are trib. to Ceylon, and governed by a sultan. The natives are expert navigators, and are largely engaged in bonito fishery, that fish being one of the chief exports and the prin. article of food. Mall, or King's Is., is the cap. of the group and the residence of the sultan, and from it the trade, which is carried on chiefly with Calcutta, is conducted. The prin. exports are bonito fish, tortoiseshell, coco-nuts, cohi-arn, copra, and cowries. The climate is unhealthy. The old form of gov. was abrogated in 1932 and a new constitution introduced, the former Prime Minister, Abdul Majid Dill, becoming sultan. There is now a popular assembly of thirty-three members and a cabinet of four ministers, the prime minister being chosen by the sultan from the members of the Assembly. Pop. (all of whom are Muslims), 93,000.

Maldon: 1. Municipal bor., mrkt. tn., and riv. port of Essex, at the influx of the R. Chelmer to the Blackwater estuary, 41 m. E.N.E. of London. There are manufs. of crystallised salt, breweries, an oyster fishery, and some shipbuilding. Many Rom. remains are in the neighbourhood. Pop. 10,000. 2. Mining tn. in Talbot co., Victoria, Australia, at the foot of Mt. Tarrangower, 40 m. from Sandhurst. Pop. 3077.

Maldon, The Battle of, took place in 993, according to the *Anglo-Saxon Chronicle*, and was a contest between Olaf Trygvesson, later king of Norway, and the ealdorman Bryhtnoth, which resulted in the death of Bryhtnoth. It is described in a contemporary epic poem of which about 700 lines still exist, but no one of the enemy is mentioned by name, and it was written immediately after the battle, before the poet had time to find out any information about the opponents. A copy of the poem is contained in H. Sweet, *Anglo-Saxon Reader*, 1876.

Maldonado: 1. Tn. in Peru, cap. of the Madre de Dios dept., situated on the R. Madre de Dios. 2. Dept. of Uruguay on the sea-coast, with Rocha to the E., Lavalleja to the N., and Capadones to the W. Agriculture and stock-raising are the chief occupations. Area 1687 sq. m. Pop. 67,915. 3. Cap. of the above dept., seaport, and naval station on the Rio de la Plata, 70 m. E. of Montevideo. The is. of Gorriti shelters its harbour. It has limestone quarries, and exports cattle and hides and limestone to Montevideo. Pop. 86,000.

Malebranche, Nicolas (1628-1715), Fr. philosopher, b. at Paris, where his father was president of the chamber of accounts. At the age of twenty-two he entered the congregation of the Oratory, and devoted himself to the study of Bible hist. and of the fathers of the church, till Descartes's treatise, *De Homine*, falling into his hands,

attracted him to philosophy. His famous work, *De la recherche de la vérité*, was pub. at Paris in 2 vols. (1674-75). It shows great depth and originality of thought, combined with perspicuity and elegance, and had for its object the psychological investigation of the causes of the errors to which the human mind is liable, and of the nature of truth and the way of reaching it. He maintains that we see all things in God (his famous *vision en Dieu*), that all beings and thoughts exist in God. His system is a kind of mystic idealism. It was immediately opposed by Antoine Arnauld, Bossuet, and many others, and was subjected to a thorough and critical examination by Locke and Leibniz. Besides the work above mentioned M. wrote *Conversations métaphysiques chrétiennes* (1677); *Traité de morale* (1697); and *Traité de la communication de mouvement* (1699). An ed. of his works was pub. in 1712, and a selection, ed. by J. Simon, 1839-71. See A. Keller, *Das Kausalitätsproblem bei Malebranche und Hume*, 1899, and L. Bridet, *La Théorie de la connaissance dans la philosophie de Malebranche*, 1929, also studies by P. Monnickin, 1927; H. Bouhier, 1929; and R. W. Church, 1931.

Male Fern (*Nephrodium*, or *Asplenium filix-mas*), one of the commonest ferns. Its bluish-green, bipinnate fronds rise erectly from a stout stock like the feathers from a shuttlecock. The fern exhibits wide variation in type, and has been split up into three sub-species. The spore capsules are borne in circular sort or heaps on the back of the fronds, and at first are covered by kidney-shaped scales. The plant, and especially the root, contains antacid properties, and oil of M. F. is used as a vermifuge.

Malakula, formerly *Mallicolo*, i. of the New Hebrides, W. Pacific, extends some 55 m. N.W. to S.E. between 167° 10' E. and 167° 47' E. long and between 15° 30' S. and 16° 45' S. lat., being the second largest is. of the group. To the W. is the open sea; to the E. lie Rapa, Ambrym, and Epif Is.; to the N. the large is. of Espiritu Santo; off the S.W. coast is the archipelago called the Makelive Is., and small is. of coral formation, such as Van and Aiden, are separated from its coasts by narrow channels. A mt. chain runs along the whole length of the E. coast and another inland parallel to the S. coast. Sharp Peak is 2765 ft. high and Mt. Penat 2125 ft. Very little is known of the interior. There are no large rivers, but some considerable streams, some good harbours, and many bays. The only indigenous mammal is the flying fox (*Pteropus*); but wild pigs, rats, and wild cats are found in the bush and are hunted. There are sev. varieties of lizards and snakes. There are also varieties of pigeons and a black hawk (*nemba*), which latter is represented in native ceremonial. The flora includes bread-fruit trees, tree-fern, bamboos, wild cane, umbrella palm, ivy-nut or thatching palm, cycas, kava plant (*Achyranthes aspera*) with bright red leaves used for adornment, and many kinds of croton, which also figures prominently in ritual.

The natives of M. are Melanesians and extremely primitive, and as yet they are not accustomed to white people exploring the bush. They are rapidly disappearing on account of disease. They are of medium height, with chocolate-coloured skins, woolly hair, and prognathous faces. The climate is tropical and has the usual attendant ill of malarial-infected mosquitoes. There is a Presbyterian mission-house at Urua on the E. coast. The is. folk have been the subject of much field work by anthropologists. See A. B. Denoon, *Malakula: a Vanishing People in the New Hebrides*, 1934, and J. Layard, *Malakula: Stone Men of Malakula*, 1942.

Maler Kotla: State of E. Punjab, India, one of the Cis-Sutlej states which came under Brit. influence in 1809. Tobacco, sugar-cane, cotton, and wheat are grown. Area 168 sq. m. Pop. 88,100. 2. Tn. of India, cap. of the above, 30 m. from Ludhiana. Pop. 30,100.

Male-herbes, *Chrétien* Guillaume de Lamoignon (1721-94), Fr. statesman, b. in Paris, the associate of Turgot and those who sought by moderate reforms to prop the weakness of the old monarchy of France. Among other offices he held those of president of the *Conseil des Aides* and minister of the king's household. When Louis XVI. was brought to trial, M. claimed the post of his defender. His fearless integrity drew upon him the hatred and suspicions of the party in power and he was guillotined on April 22. The works of M., who was a member of the Fr. Academy and of the Academy of Belles Lettres and Inscriptions, mostly on subjects of natural hist. and rural economy. His *Discours et opinions diverses*, printed in 1779, are still quoted as authorities on financial questions. See also by E. Vignaux, 1874, and J. M. Simon, 1938.

Malet, Lucas (1852-1931) (pseudonym of Mary St. Leger Harrison), Eng. novelist, b. at Exeter, daughter of Charles Kineley (q.v.) and wife of Wm. Harrison (formerly rector of Clavely). Her most celebrated work was *History of Sir Richard Calmady* (1901). Others include *Colonel Enderby's Wife* (1895); *The Far Horizon* (1909); *Idrian Savage* (1911); *The Survivors* (1923); and *The Dogs of War* (1924).

Malham, vil. in the W. Riding of Yorkshire, England, 6 m. E. of Settle, on the R. Aire. The Craven Fault, a displacement of limestone, forms two amphitheatres of rock, M. Cove and Gordale Scar. 1 m. from the vil. M. Tarn, N. of the cove, is an upland lake.

Malherbe, François de (1555-1629), Fr. poet, was b. at Caen in Normandy. He accompanied Henri of Angoulême, son of Henri II., who went to Provence as governor in 1579, and remained attached to his household till that prince's death in 1585. He was patronised by Henri IV., on whose death his widow, Marie de Medici, settled a pension upon him. M. has been styled a competent judge, the restorer of the Fr. language and poetry. His complete works were pub. in *Grands Écrivains de la France* (1802). See

F. Brunot, *La Doctrine de Malherbe*, 1891, and R. Bray, *La Formation de la doctrine classique* (2nd ed.), 1931.

Malibran, Maria Felicità (1808-36), Fr. operatic singer, b. at Paris, a daughter of Manuel Garcia, Sp. tenor. She made her début in 1825 in *The Barber of Seville* at Covent Garden, and then went to America. She later sang with great success in France and Italy.

Malic Acid, or Monohydroxysuccinic Acid ($C_4H_5O_5$), an organic acid which occurs in the free state and in the form of its salts in many fruits, including apples, grapes, and mountain-ash berries. It forms deliquescent crystals melting at $100^\circ C$; it dissolves readily in water and alcohol. It may be prepared by boiling bromosuccinic acid with silver hydroxide and water, or by treating aspartic acid with nitrous acid. It is usually obtained by squeezing the juice out of unripe mountain-ash berries; the juice is boiled with milk of lime, and the resulting precipitate is dissolved with hot nitric acid, crystals of calcium hydrogen malate being formed. The salt is then decomposed with oxalic acid.

Malice, in popular language, means ill will or spite against a particular person or class of persons. In law it occasionally has this meaning, as, for example, in the case of an action for malicious prosecution (*q.v.*), and again in the law of libel (*see* DEFAMATION) the defence of 'qualified privilege' is rebuttable by proof of such M. in the defendant. But its general use in the criminal law is notoriously devoid of any special significance, and in practically all cases it merely connotes that which is unlawful and is tantamount to criminal intent (on this subject *see* CRIMINAL LAW). M. when used in law in the non-technical sense, is generally called express M., or M. in fact, in contradistinction to technical or implied M., i.e. the M. or criminal intention that is really nothing more than an inference of law resulting from doing the objectively criminal act, *e.g.* murder is generally defined as killing with 'M. aforethought,' or *premeditation*, while manslaughter (*q.v.*) is defined as killing another without M., either express or implied. (*See also* MALICIOUS INJURIES TO PROPERTY.) In civil actions M., or indeed any other state of mind, is for the most part irrelevant, and it is now settled law (1) that a violation of a legal right committed knowingly gives a right to sue for damages, not on the ground of malicious intention, but simply because the interference with other people's contractual relations is wrongful if not justified; (2) if such violation or interference be unjustifiable, the presence or absence of M. is immaterial to the cause of action.

Malicious Injuries to Property are classified in the Eng. criminal law either according to the nature of the property or the manner of injury. They are for the most part dealt with in the Criminal Law Consolidated Act, 1861. Arson is treated as a distinct specific offence, though there is no scientific reason for so doing. Every kind of arson is a felony, and in all but one

case (attempting to set fire to crops and stacks—seven years) the punishment may be up to fourteen years' penal servitude, penal servitude for life, and in two cases death (arson of ships and vessels). M. l. to houses by explosion so as to endanger life is a felony punishable by penal servitude up to life; but the maximum punishment for malicious injury to vessels by explosion is only seven years, while a life sentence may be given for malicious injury by altering signals so as to endanger vessels. The Act further deals with numerous other specific M. l., *e.g.* destruction of manufs. and machinery; damaging mines by water; destruction of vessels wrecked or stranded; damaging sea and riv. banks, dams, and walls; destruction of bridges, viaducts, aqueducts, and turnpikes, throwing obstacles across any railway; and damaging books, works of art, etc., in public museums. The punishments range from a minimum of five years up to life imprisonment, while lesser injuries may be disposed of summarily by magistrates. The fact that injuries or attempted injuries to property are committed in the furtherance of a political purpose is no defence to a criminal prosecution.

Malicious Prosecution. To set in motion the machinery of the criminal law against a person without 'reasonable and probable cause,' for so doing, renders the prosecutor liable to an action for M. P. But not every person who gets an acquittal at the hands of a jury, or whose prosecution is summarily dismissed by justices, will necessarily succeed in a civil action of M. P. If a crime has been committed and the circumstances were such that the prosecutor had reasonable cause for believing that the plaintiff (in the civil action) was probably the guilty person, he is justified in protecting his interests by prosecuting him. It is on the plaintiff, if the judge decides that there was an absence of reasonable and probable cause, to prove affirmatively, to the satisfaction of the jury, that the defendant (prosecutor) was actuated by malice or some indirect motive like personal spite or ill will against him; but if the judge decides on the facts that there was such cause, then malicious motives are immaterial, and there is no case to go to the jury. As a rule a claim for damages for M. P. is joined with a claim for false imprisonment (*q.v.*), for there cannot be a prosecution without at least technical imprisonment. The false imprisonment, however, is more or less merged in the M. P. where joined with such a claim. *See also* VEXATIOUS INDICTMENTS ACTS.

Malignant Jaundice, *see under* JAUNDICE.

Malignant Pustules, *see* ANTHRAX.

Malignants, name given by the Parliamentarians to the Royalists during the Great Rebellion in England. It occurs in the Great Remonstrance of 1641.

Maligne Lake, forms part of the Jasper National Park on the slopes of the Rocky Mts., Alberta, Canada. The lake is about 5 m. in length; it is about 10 m. S.W. of Jasper.

Maliki, *see under* SUNNISM.

Malinao, pueblo of Albay prov., Luzon, Philippine Is. Near it is the extinct *M. volcano*. Pop. 13,000.

Malindi, seaport of Kenya, at the mouth of Sabaki R., 70 m. N.E. of Mombasa. Vasco da Gama visited it in 1498 and raised a pillar. Copra, cotton, and maize are exported from the port, and rubber is produced in the neighbourhood. Pop. 5,000.

Malines, see MICHELEN.

Malingering, word of obscure derivation, but according to Cotgrave comes from the Fr. *malinure*, sickly, denoting pretended or feigned illness for any purpose, but especially to evade military or naval duty. *M.* is also a common practice of mendicants to avoid labour, pampers to shirk allotted tasks, and criminals to prevent the infliction of punishment. It takes various forms, e.g. military doctors have found pieces of metal inserted in the head to indicate previous fracture of some part of the skull; an appearance of fever has been induced by swallowing tobacco juice, or by various stimulants, such as brandy or cantharides; lameness by tying ligatures round the leg, causing it to swell; internal applications have been used to produce cardiac derangement. Manifestations of the nature of inflammation, purulent expectoration, and fevers, are, however, not easily feigned, nor any disease whose diagnostic symptoms are well settled, and which operate to produce a perceptible systematic change. It is otherwise with diseases symptomatically uncertain or variable and characterised by no peculiar outward appearance, like epilepsy and insanity. *M. per se* is no offence apart from the special case of soldiers and sailors unless the malingeringer's assumed illness is for the purpose of obtaining money, and he actually attempts so to obtain it. A test involving pain, to detect *M.*, may only be employed by the authority of a visiting committee of justices or a prison commissioner.

Malinowski, Bronislaw Kaspar (1881-1942), Anglo-Polish social anthropologist, b. at Cracow, Poland, and educated at the Polish Univ. there. He accompanied the Robert Mond anthropological expedition to New Guinea and N.W. Melanesia in 1914 and visited Australia in 1918 and Mexico in 1926. Reader in social anthropology (1924-27) and prof. (from 1927) in the Univ. of London. Visiting prof. to Yale (1939). His work in London Univ. from 1927 made him world famous as one of the leading social anthropologists, his prin. pubs. on the subject being *Argonauts of the Western Pacific: Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea* (1922); *Sex and Repression in Savage Society* (1928); *The Sexual Life of Savages in N.W. Melanesia* (1929); and *Coral gardens and their magic . . . in the Trobriand Islands* (2 vols.) (1935). Some of his works are written in Polish but most of them are in English. D. at New Haven, Connecticut, after presiding at the inaugural meeting of the Polish Institute of Art and Science, New York, of which he was chairman.

Malinowsky, Rodion Yakovlevich (b. 1899), Russian soldier. Served in the Stalingrad offensive, 1942. Commanded the troops which occupied Istosov-on-Don, Feb. 1913, when he was promoted colonel-general. General of army, May 1913. Awarded the order of Lenin 1911 and 1945; order of Suvarov, 1943. Commander of the S.W. front in Russia, 1943. Commander-in-chief of the Third Ukrainian front or group of armies in 1944. In Jan. 1944 his main spearhead struck at the centre of the Ger. front in the S., along the line of the railway running S.E. from Dniepropetrovsk, the impetus of his attack carrying his forces through the Ger. line on a front of 94 m. and ending in the capture of Nikopol (8 Feb.). In March 1944 in four days' fighting his armies again broke through the Ger. line on a front of 105 m. along the Ingulets R., his brilliant co-operation with the First Ukrainian group under Zhukov (*q.v.*), the Second under Konev (*q.v.*), and the Fourth under Tolbukhin resulting in the liberation of the Ukraine and carrying the Russian Armies to the Balkans. In Aug. 1944 his armies assailed the strong positions covering Jassy, sweeping everything before them and capturing Kishinev (Aug. 24), and soon afterwards consolidated their grip on the chief passes leading to Transylvania. Signed the Rumanian armistice at Moscow, Sept. 1944. (*See further under EASTERN FRONT or RUSSO-GERMAN CAMPAIGN in SECOND WORLD WAR.*) Gold Star Medal, 1945. Titled Hero of Soviet Union, 1945. Commander-in-chief of the Soviet forces in Manchuria, 1945-46.

Malipiero, Gian Francesco (b. 1882), It. musical composer, b. in Venice, studied at Bologna under Bossi and in Germany under Max Bruch. A cultured and advanced musician with plenty of inspiration. *M.* has tried all kinds of musical composition, but scorns all the customs of the more immediate It. past and wishes to see It. music regenerated (S. holes). He produced an opera, *Canossa*, in 1914, but without success. Among his best known works are *Sette Canzoni* (symphonic drama), *L'Orfide*, a trilogy (dramatic), *Didrambo tragico* (1917), together with a number of songs and piano pieces. He ed. a complete ed. of Monteverdi's works. His writings include *L'Orchestra* (1920); *Tedro* (1920); *Studio Monteverdi* (1930); and *Four Stravinsky* (1942).

Mallard, genus *Anas boschas*, subfamily Anatinae of the order Anseriformes. The common wild duck of Great Britain and the N. hemisphere, from which most domesticated breeds are derived. In the male the general colour is brown, deepening into black on the lower back, the rump and tail-coverts being black, with a purplish or green gloss; wing-coverts ashy grey, washed with brown; the colour of the speculum varies, according to the light, from rich purple to steel-blue or greenish blue; head and neck all round metallic green changing into purple according to the light; on the lower throat a narrow white band not completely joining at the nape; foreneck and

chest deep chestnut; remainder of under-surface greyish-white and finely freckled; bill olive-yellowish; feet and toes orange; total length 22 in., wing 11 in. and tail 3.5 in. The female, which is smaller, is entirely different from the male, having mottled brown and buff plumage, with reddish margins and centres to the feathers, imparting a narrowly streaked appearance to head and neck, and broadly streaked appearance to the back—but it should be noticed that there is great variation in these markings. Of all fresh-water ducks the M. is the commonest, and though it was more plentiful in former days there are still so many retired dists. in Great Britain where it is encouraged to breed that it is extremely numerous in some places, and every winter there is a great accession of migrants from the Continent. At this season it quits its N. habitat and is absent from many of the N. dists. of Scotland and its is. Like the tatic duck the M. is almost omnivorous in its choice of food, many kinds of aquatic plants and weeds, as well as water insects, worms, and slugs, forming its usual diet, though it will also eat grain and acorns.

Mallarmé, Stéphane (1842-98), Fr. poet and theorist, b. in Paris. He was prof. of Eng. at Tournon, Besançon, Avignon, and Paris successively. In 1876 he pub. his *L'Après-midi d'un faune*, and in 1887 *Poésies complètes*. His vol. *vers et prose*, containing some of his most important work, appeared in 1893. He had previously pub. in 1883 a notable trans. of the poems of Edgar Allan Poe and some essays of literary criticism. His poems contain some verses of extraordinary beauty and grace, but are, for the most part, wrapped in mysticism, and are not very intelligible. M. is an important figure in the development of Fr. literature of the Third Empire and his influence on Paul Valéry and other later writers is as great as that of Verlaine. Early a friend of Mistral he understood Provençal poetry and its intimate relationship to instinct better than did most Fr. writers, and as an admirer of Eng. poetry—notably Poe—he inculcated from that source a spirit that was also new to the Fr. Hence when at thirty he came to Paris, moulded by these two formative influences into an Anglo-Provençal, he had much to teach the Fr., whose tradition, whether Romantic or Classicist, was eloquence or rhetoric rather than poetry, and had in any case tended by 1870 to become sterile. M. expresses in his fragmentary pieces the spirit of a new kind of literature which whether the only true literature or not certainly dominates the whole period of the Third Empire. In England Blake had much of the spirit which M. would have re-echoed had he known of Blake's work; and in France Baudelaire, Rimbaud, and Gérard de Nerval were all precursors in the Mallarmean conception of poetry; but M. himself was the first Fr. writer to formulate a definite theory of the function of poetry (*Poésies et prose*). According to M. reality is not art; nothing that tells a tale is poetry; nothing that

teaches a lesson is poetry; nothing that expresses feeling is poetry; drama is the least poetic of all forms of writing. Poetry must learn from music. Thus he condemns nearly all previous literature, save for some isolated exceptions. He proclaims that the true function of poetry is to restore the eternal, and its true subjects the failures of reality, as exemplified in Baudelaire's *Fleurs du mal* (1857) and *La Nuit d'Idunée* (0000). M. was himself an indifferent writer whether in verse or prose; he was essentially a thinker and talker. He seems deliberately to make his verse incomprehensible to square with his theories—theories which impelled him to Symbolism, the strongest single influence in Fr. literature of the period. See A. Symons, *The Symbolist Movement in Literature*, 1900; Sir E. Gosse, *French Profiles*, 1905; A. Thibaudet, *La Poésie de Stéphane Mallarmé*, 1923; E. Dujardin, *Mallarmé parmi ses siens*, 1936; and D. Saurat, *Modern French Literature*, 1946.

Malleability, physical property of materials which determines the extent to which their shape can be altered by hammering without breaking. Most metals and metal alloys are malleable to some degree, gold being of the highest M. Temp. may be an important factor in M.; some metals are only malleable at temp. below, and some at temp. above, their recrystallisation temp. The property is of especial importance in rolling, pressing, and forging.

Malleco, inland prov. in Chile, cap. Angol. The centre consists of a rich plain where agriculture is carried on. The chief products are wheat and cattle, and gold is mined. Area 5511 sq. m. Pop. 154,174.

Mallee, Australian name for *Eucalyptus dumosa* and *olosa*, two dwarf species of the gum-tree, which are able to live under extremely adverse conditions, and form dense thickets over tracts of country, called M. scrub. Much may be accomplished by irrigation schemes, in course of preparation, to relieve the constant threat of drought in these areas. The M. country is subject to dust-storms, which cover roads, gardens, and fences, and gather dust in drifts up to 6 ft. in depth.

Malleon, George Bruce (1825-98), Brit. soldier and author, b. at Wimbledon and educated at Winchester. He obtained a cadetship in the Bengal Infantry, and in 1842 served in the second Burmese war. His subsequent appointments were civilian. For some time he was Indian correspondent of *The Times*. His first work to attract notice was the *Red Pamphlet*, pub. at Calcutta during the mutiny (1857). Among his other works are *History of the French in India* (1868); *History of Afghanistan* (1878); *The Founders of the Indian Empire* (1882); and *The Decisive Battles of India* (1888). He also re-wrote the *History of the Indian Mutiny* (1878-80), left uncompleted by Sir John Kaye.

Mallet (originally Mallooh), David (1705-1765), Scottish poet and miscellaneous writer, educated at Clief par. school and

the univ. of Edinburgh, where he met Thomson. In 1723 appeared his ballad of *William and Margaret*, by which he is chiefly remembered, and which made him known to Pope, Young, and others. His *Excursion*, an imitation of Thomson, was pub. in 1728. At the request of the Prince of Wales, whose secretary he had become, he wrote with Thomson a masque, *Alfred* (1740), in which *Rule, Britannia* first appeared, which, although he claimed the authorship, is now generally attributed to Thomson. On the accession of George III. M. became a zealous supporter of Lord Bute, and was rewarded with a sinecure. In addition to the works above named M. wrote some indifferent dramas, including *Eurydice* (1731); *Mustapha* (1739); and *Elvira* (1763).

Mallicolo, see MALFICOLA.

Malling, East, and West, see EAST AND WEST MALLING.

Malloch, David, see MALLET.

Mallophaga, see BRU LICE.

Mallorca, Sp. name for Majorca (q.v.).

Mallow, tn. in Co. Cork, Ire., on the Blackwater R., 17 m. N.N.W. of Cork. Noted for its mineral springs, and has the remains of a castle. Pop. about 1500.

Mallow, or Malva, genus of hardy annuals and perennials. The musk M. (*M. moschata*), with its white flowers, is grown in gardens.



MALLOW

Mall, The, London thoroughfare running along the N. side of St. James's Park between the Admiralty Arch near Trafalgar Square, and the Queen Victoria memorial in front of Buckingham Palace. It is overlooked by the gardens of St. James's Palace and the adjacent houses. Parallel to it is Pall Mall, home of many of London's chief social clubs, the name of this thoroughfare as well as that of the M. being taken from the game of M. or pell-mell. This game was played in 1635 in St. James's Fields on the site of St. James's Square and Pall Mall, but was discontinued during the Commonwealth when houses were built round about. The name pell-mell is a variant of *patle-malle*, a game played in Languedoc at

least as early as the thirteenth century and believed to be the origin of croquet. Like the latter, M. or pell-mell was a ball and mallet game, with hoops.

Malmalson, chateau in dept. of Seine, France, 5 m. W. of Paris. It was built in the seventeenth century and is noted as having been the residence of the Empress Josephine after her divorce from Napoleon.

Malmédy, tn. and dist. of E. Belgium, was given to Prussia in 1814, together with the dist. of Eupen, but was returned to Belgium in 1919. In 1940 M. was again attached to Germany, but was liberated by Amer. troops in 1944. Pop. 5000.

Malmesbury, James Harris, Earl of (1716-1820), was the only son of James Harris, the author of *Hermes* and other well-known philological works. He was b. at Salisbury. In the autumn of 1767 he was, through the patronage of Lord Shelburne, appointed secretary of embassy at Madrid. The temper and firmness, as well as talent, with which Harris had managed his negotiation with regard to the Falkland Is., gave so much satisfaction to his gov. that he was the following year appointed to the post of minister at the court of Berlin. From 1777 to 1784 he was ambas. to St. Petersburg. In 1788 Pitt offered him the post of minister at The Hague, which he accepted. For services while here he was raised to the peerage. In 1794 he was employed to negotiate the marriage between the Prince of Wales and Caroline, daughter of the duke of Brunswick, and accompanied her to England. See *Diaries and Correspondence*, 1811, and *Lord Malmesbury and his Friends*, 1870, both ed. by his grandson, James Howard Harris, third earl of M. (1807-89), who succeeded in 1841, and in 1852 and 1858-59 was foreign secretary and later lord privy seal. See his *Memoirs of an Ex-Minister*, 1881.

Malmesbury: 1. Mk. tn. in Wiltshire, England, 191 m. N.N.W. of Bath, picturesquely situated on the Avon. The par. church was formerly the Saxon abbey where Athelstan was buried. In the market-place stands a beautiful Celtic cross of the time of Henry VII. The manuf. of silk and pillow-lace is carried on. Pop. of dist. (1931) 8400. 2. Municipality of Cape Prov., 35 m. N.N.E. of Cape Town, has salt-pans and sulphur springs. Pop. 2200. (See illustration, p. 708.)

Malmö, fortified tn. of Sweden, on the Sound, cap. of prov. of Malmöhus, and one of the most fertile dists. of the kingdom. It is an important railway terminus and has a citadel and port with three harbours. It has a good trade in grain and whisky, and manufs. gloves, tobacco, cotton, etc. There are also iron works and dockyards. The chief buildings are a tn. hall, hospital, and theatre, and sev. old churches. Pop. 171,200.

Malmöhus, co. of Sweden, the S. part of the Scania peninsula, is a very fertile dist. Area 1872 sq. m. Pop. 560,877.

Malmsey, sweet and luscious white wine, originally brought from Malvasia or Malvoisie in the Morea, and hence sometimes

known as Malvoisie. Vines of this variety were planted in Tenerife, Madeira, and the Canary Is., and M wine used to be made from a grape grown on the rocky ground of Madeira.

Malo, mkt tn in Venezia, Italy, 10 m. N W of Vicenza. Pop 7000.

Malo-les-Bains, seaside resort of N France, connected by tramway with Dunkirk. Pop 5700.

Malolos, pueblo of Bulacan prov. Luzon, Philippines. 17 m. N N W of Manila. The chief crop is rice. Pop 26,000.

its melting point it decomposes into acetic acid and carbon dioxide.

Malory, Sir Thomas (fl 1470), translator of *Morte d'Arthur*. Very little is known of him. Prof G. L. Kittredge held that he was Sir Thomas M. of Newbold Revell Warwickshire, who fought successively on both sides in the Wars of the Roses, sat in Parliament in 1444-45, and d. in 1471. According to Caxton he finished his work about 1470 and 'reduced' it from some 12 books. In his book he strove to make a continuous story of the Arthurian legends and showed judgment alike in



Malmsbury Abbey

MALMSBURY ABBEY

Malone, Edmund (1711-1812), Brit. critic, was educated at Trinity College, Dublin, and called to the Irish Bar in the late sixties. He came to London in 1777 and eight years later was elected to the Literary Club with the most prominent members of which Johnson, Burke, Reynolds, and Boswell he was on intimate terms. He devoted himself to the study of Shakespeare. In 1775 he pub. an *Attempt to ascertain the Order in which the Plays of Shakespeare were written* and from 1783 worked at his *Shakespeare*, which appeared in 1790. In 1800 appeared his ed. of Dryden's works with a biographical introduction. M was one of the first to express his disbelief in Chatterton's Poems supposed to have been written by T. Rowley, and in 1796 he denounced the forgeries of Samuel Ireland. See life by Sir J. Prior, 1864.

Malone, co seat of Franklin Co., New York U.S.A., on the Salmon R., 57 m. W. of Rouse Point. It is situated in the midst of a rich farming country, hops being the chief crop. It has an iron foundry, paper and flour mills. Pop 7000.

Malonic Acid, $\text{CH}_2(\text{COOH})_2$, organic acid formed by the oxidation of malic acid. It forms colourless crystals melting at 142°C , and is readily soluble in water, alcohol, and ether. When heated above

what he included and omitted. His work was finished in 1489 but was not pub. by Caxton until 1554, before the middle of the seventeenth century seven eds. had appeared. Of Caxton's black letter folio only two copies (reprinted by O. Sommer with preface by Andrew Lang) now exist. An independent MS. was found at Winchester in 1944. See studies by V. Scudder, 1921; J. Hicks, 1928; J. Vinaver, 1929; N. S. Auerer, 1933, and G. R. Stewart, 1935.

Malpighi, Marcello (1678-91), It. anatomist, b. at Cremona near Milan. He held at different periods of his life the professorship of medicine in Bologna, Pisa, and Messina. In 1691 he was summoned to Rome and appointed chief physician and chamberlain to Pope Innocent XII. He is chiefly known for his discoveries in the anatomy of the skin, kidney, and spleen, the Malpighian bodies or corpuscles of the kidney and the spleen still retain his name of their discoverer. He was also the first to examine the circulation with the microscope, and thus discovered the blood corpuscles.

Malpighiaceae, natural order of trees and shrubs occurring mostly in the S. hemisphere with glandular five parted calyx, five petals sutured at the base, and fruit a drupe, woody nut or samara.

Malplaquet, hamlet in dept. of Nord,

France, noted for the victory of Marlborough and Prince Eugene over the Fr. in 1709. It is 21 m. E. by S. of Valenciennes.

Malraux, André (b. 1895), Fr. author, b. at Paris (real name Herser). He worked with the propaganda dept. of the Third International and was editor of the *Nouvelle revue française*. In his novels he follows in the line of Dostoevsky and others who portray the egocentric social degenerate and the futility of experience. The heroic assertion of the will in face of man's lot is the theme of all M.'s novels, or the futile rebellion of the individual mind expressed in its lonely human cell facing the inane. Some of his best novels are *Les Conquérants* (1928); *La Voie royale* (1930); *La Condition humaine* (1933); trans. as *Storm in Shanghai*; and *Le Temps du Mépris* (1935). *Storm in Shanghai* is a documentary novel of great effectiveness, reflecting the suffering in the minds of Chinese revolutionaries. *Les Conquérants* is a diary rather than a novel dealing with the Chinese revolutionary troubles of the 1920's which the author witnessed. M. has a fine grasp of the objective historic situation and shows a keen sensitivity to the subjective world of his characters. He fought in the Sp. civil war and was a colonel in the Free Fr. Forces of the Interior during the Second World War, leading the Alsace-Lorraine brigade, he became minister of Information in Gen. de Gaulle's Cabinet, 1944. The first vol. of an ed. of his complete works was pub. at Geneva in 1945. See R. Bospaloff. *Chemineurs et carrefours*, 1938, and C. Mauriac, *Malraux ou le mal du héros*, 1946; also lives by G. Picon, 1945, and M. Savane, 1946.

Malstatt-Burbach, tn. in the Saarland, Germany, on the Saar, 38 m. S.S.E. of Trier, now incorporated with Saarbrücken. Before the Second World War it had large iron-works, was the centre of the coal dist., and manufactured cement, rails, and machines.

Malstrom, see **MAELSTROM**.

Malt is the name given to barley which has been germinated in a moist room at a temp. of 55-62° F., and then subjected to a higher temp. to stop further growth. The chief food store in the grain is starch, and during germination an enzyme diastase, converts the starch into maltose and dextrin, and so makes the food available to the embryo. Protein is also present, and is changed by a different enzyme. The M. is next dried and crushed, and may be used in the preparation of such alcoholic beverages as stout, porter, beer, and whisky. M. extract is prepared by steeping the M. in water and then concentrating the liquid at a low temp., or *in vacuo*, until a syrup results. This contains maltose, dextrin, diastase, and some protein. Owing to the presence of diastase M. extract effects the conversion of starch into a sugar. For this reason it is added to flour used in the preparation of some kinds of bread, but directly the loaf is heated the diastase is destroyed and its action ended. Taken by human beings M. extract aids digestion of starch, and is an addition to the diet,

for most extracts contain over 50 per cent sugar and from 3½ to 6½ per cent protein. Hott's M. extract, however, is a liquid preparation, and is an aid to digestion rather than a food. Dedicated M. extracts have the highest food value and good digestive activity. Radio M. is a preparation to which ergosterol, irradiated by ultra-violet rays to produce vitamin D, has been added.

Malta, G.C., is. and Brif. possession in the Mediterranean, 17 m. long and 9 m. broad, with an area of about 95 sq. m.; it is of carbonaceous limestone, of the tertiary aqueous formation, and occupies a very central position in the Mediterranean Sea, being distant some 54 m. from the Sicilian coast and about 200 m. from Cape Bon on the African coast. Between it and Gozo (q.v.) lies the small is. of Comino, and off this last the still smaller islet, Cominotto, rears its rocky crest, while elsewhere round the shores of M. and Gozo a few rocks stud the sea, sustaining each a few fishermen, and affording herbage for goats on their moss-grown summits. Mifla Is., 3 m. off the coast, is uninhabited and is used as a gunnery target. In physical conformation M. is comparatively low, its highest point not exceeding 817 ft. above the sea level. Much of the is. to the W. S., and S.W. of Città Vecchia is above 600 ft. in height. Madonna Church, ¼ m. S. of Dingli and 2½ m. S. of Rabat, stands on ground which reaches 775 ft. Dingli vil. is over 750 ft. above sea level. The surface is diversified by a succession of hill and dale, the land being intersected by parallel valleys, running from S.W. to N.E., the most considerable of which is the vale called Mellieha. M. shows no signs of volcanic formation, but the action of the sea among its cliffs has hollowed out grottoes and caverns in almost every direction, and some of considerable extent. M. is full of interest for archaeologists, presenting, as it does an entire and unique phase of the early culture of Europe. Stone monuments, bearing a strong resemblance to Stonehenge, are to be found at Hagar Qim and Mnajdra in the S. of the is. Stone and Bronze Age relics are to be found in the temple of Tarxien. Many of these relics have been moved to Valletta museum. In religion the Maltese are Rom. Catholics. The Maltese language is of Semitic origin, with an admixture of Arabic words. Some hold that it is derived from the Carthaginian and Phœnician tongues. There is a Maltese nobility, recognised by the Crown, consisting of about thirty families. The inhab. are good agriculturists. Mules and asses are remarkable in M. for their strength and beauty, but the horned cattle are small. Maltese goats are very fine animals. The bees produce an aromatic honey, excelled in no other locality. The vegetable products comprise all that flourish in Italy, as cummin seed, figs, aloes, oranges, and olives, with many plants of a more tropical growth. Wheat, barley, clover, and tomatoes are grown on dry land, while on the irrigated land sub-tropical vegetables are grown. The

total value of agric. produce was £1,378,009 in 1947-48. Mdina (q.v.) (or Notabile), the former cap. of the is., is a handsome old tn. lying inland; it contains the anct. palace of the grand masters of the Order of St. John, the cathedral, a college, and is still the seat of the bishopric. Its pop. is now only about 1400, but its suburb, Rabat (q.v.), had 12,500 in 1948. Its rival and successor is Valletta (q.v.). M. has a large arsenal and an important dockyard, being the headquarters of the Mediterranean fleet. M. has a univ. and lyceum, numerous elementary schools, six secondary schools, together with garrison schools and sev. private schools which receive grants-in-aid from the gov.

It is thought by some that M. was the Hyperion or Ogygia of Homer, but there is little doubt that the Phœnicians colonised the is. at a very early date, probably in the sixteenth century B.C. Before they were dispossessed by the Gks. in 736 B.C., they had developed considerable commerce. The Gks., who called the is. Melita, were driven out by the Carthaginians about 500 B.C. As early as the first Punic war it was plundered by the Romans, but did not come finally into their possession until 242 B.C. St. Paul's is., or Selmunett, in St. Paul's Bay on the N.E. coast, is the traditional site of St. Paul's shipwreck (Acts xxvii.), and the place is marked by a statue. During the fifth century A.D. it fell successively under the Vandals and Goths, whose barbarism nearly annihilated its commerce. In 533 Belisarius recovered M. to the Byzantine Empire, in nominal union with which it remained for more than three centuries; but its prosperity had departed, and its civilisation almost vanished amid constant local feuds. In 870 the Arabs destroyed the Gk. power in M., and fortified the harbour as a station for their corsairs. Count Roger of Sicily drove out the Arabs in 1090, and estab. a popular council for the government of the is., composed of nobles, clergy, and elected representatives of the people. This council, in a more or less modified form, subsisted for 700 years. Under a marriage contract M. passed to the Ger. emperor, who constituted it a marquisate, but it had ceased to be a place of trade, and was merely a garrison of more expense than value. Charles of Anjou, after overrunning Sicily, made himself master of M., which the Fr. retained even after they had been expelled from Sicily, but after a time the houses of Aragon and Castile successively held the is. Subsequently the Emperor Charles V. took possession of M., and in 1530 granted it, with Gozo and Tripoli, in perpetual sovereignty to the knights of the Order of St. John of Jerusalem, from whom the Turks had recently captured their great stronghold at Rhodes. The grand master of the knights defended the is. against the Turks in 1565, and founded Valletta. In 1571 they, with the Maltese, behaved most courageously at the battle of Lepanto, where the Turks lost 30,000 men. Though waging perpetual war with the muslim the knights continued in

possession of M. until 1798, when, overcome by Bonaparte's treachery and disorganised by internal quarrels, the order surrendered their noble fortresses to the Fr. M. became a part of the Brit. Empire in 1814.

A new constitution was given to M. in 1921, providing for a legislature consisting of a senate and a legislative assembly. The Senate comprised seventeen members, ten of whom represented the clergy, nobility, graduates, chamber of commerce, and trade union council, and the remaining seven being specially elected. The assembly was composed of thirty-two members, returned by electoral dists., the method of voting being by proportional representation. The governor had two councils, an executive council of selected ministers and a nominated council consisting of the lieutenant-governor and officers chosen from the navy, army, and air force. Provision was also made whereby the governor might refer 'reserved matters' to a joint committee of the two councils. Thus M. became, in effect, a self-governing colony, but the constitution was subsequently suspended under the following circumstances. A serious dispute between Church and State arose in 1929, the immediate cause being a disciplinary order from a religious superior, Father Carta, to a Franciscan friar, Guido Micallef, to move from M. to another Franciscan convent outside M. The Brit. minister to the Vatican informed Gasparri, cardinal secretary of state, that the Maltese Gov. had placed no obstacle in the way of the priest's departure; but he also observed that the condemnation of a Brit. subject to leave Brit. ter. at the command of a foreigner had caused popular indignation and also embarrassment to the gov., the latter having no wish to intervene in the internal disciplinary affairs of monastic orders. The case of Father Micallef was, however, only a sign of the general unsatisfactory state of affairs in the is. largely owing to the intense participation of Maltese priests in local politics, and the Brit. Gov. therefore decided that conditions justified an independent investigation by the Holy See into the whole question of the relations of the eccles. authorities in M. to the political gov. The apostolic delegate's report, however, was unfavourable, and the Brit. minister to the Vatican was informed that the head of the ministry, Lord Strickland (a Rom. Catholic), who was then about to visit Rome, was not *persona grata* with the Holy See. The Brit. Gov. expostulated with the Vatican on this slight to an executive minister of a Brit. colony, and, in these circumstances, the negotiations for a concordat came to nothing. Subsequently the political campaign of the Maltese clergy, especially in Gozo, became intensified, absolutism being refused to penitents who proposed to vote for the constitutional party. Later the constitution was suspended and all executive power was placed in the hands of the governor; but in 1931 a royal commission, under Lord Askwith (q.v.), was sent to M. to inquire into the possibility

of restoring to the Is. some form of constitutional government. The commission considered that the underlying cause of the difficult situation of 1931-32 was the language question. They recommended an extension of the use of Maltese in the law courts (it had been the official language not only of the courts but of gov. pubs.), but deprecated the substitution of Maltese for it as the official language. It also recommended the abolition of it from the curriculum of the elementary schools while advocating its retention in the secondary schools and in the univ.

liberty of conscience and the free exercise of religious worship were secured by this new constitution.

Constitutional Reform.—In 1942 and 1943 the elected members of the council of gov. represented that the time was ripe for the imperial gov. to declare its policy on future constitutional reform. The colonial secretary's reply (July 7, 1943), recognising that 'the people of Malta, together with its gallant garrison rendered services of incalculable value to the allied cause,' and that throughout those two and a half years the council con-



THE GRAND HARBOUR, MALTA

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Letters patent were issued (1931) to effectuate these recommendations. The constitution was restored in 1932, only to be suspended again a year later. In 1936 a new constitution was promulgated providing for crown colony gov. with an executive council containing six official as against five unofficial members. At the same time provision was also made whereby Eng. and Maltese became the official languages of M., while Eng. became the language of administration and Maltese the official language of the law courts, thus finally ousting it. Crown colony gov. was, however, hardly a striking advance in M.'s constitutional progress, and it is therefore not surprising that yet another constitution was promulgated in 1949. This provided for a council of gov. of eight official members, two unofficial members nominated by the governor, and ten elected members, the governor to preside over the council, with a casting vote but no original vote. Ecclesiastics could not be members. Full

tinned to discharge its normal functions. It was announced that it was the gov.'s policy to grant M. responsible gov. as early as the war in the same sphere as in the period 1921-37. In Jan. 1946 the colonial secretary appointed a constitutional commissioner to formulate detailed proposals, after consultation with the Maltese, on the method of implementing his declaration of July 1941 regarding reform. These discussions in M. were mainly concerned with examining proposals put forward by an *ad hoc* national assembly convoked in 1945-46, for modification of the constitution of 1921, and the gov. found the commissioner's recommendations for a new diarchy generally acceptable. The National Assembly, however, desired that the constitution should be granted by Act of Parliament rather than by a prerogative instrument, 'so as to achieve certainty and stability'; but the gov. decided that, as in 1921, the constitution should be granted by letters patent, this being the all but universal practice for the colonial

empire. But it was agreed that the new constitution should be revoked only by Act of Parliament, no power being reserved in the letters patent to revoke by prerogative, thereby re-establishing the position as it was between 1921 and 1930 when an Act—the Malta (Letters Patent) Act, 1936—was necessary to restore to the Crown the power to revoke by letters patent of which it had divested itself in enacting the constitution of 1921. Under the commissioner's recommendations the safeguards contained in the constitution of 1921 for ensuring the security of M. as a fortress, were to be fully reproduced in the new constitution, and the National Assembly accepted without question the necessity for the reservation to the governor of the necessary powers. As to reservation of Bills by the governor the effect of the recommendations is that while the governor *may* reserve any Bill, he will be *required* in the new constitution to reserve classes of Bill, namely Bills discriminating against non-Maltese, Bills encroaching on a reserved matter (such as defence, naturalisation, etc.), and Bills relating to 'special matters' (e.g. official languages). This new diarchy, in which ultimate power is again retained by the imperial gov., would seem to be more likely to succeed than its predecessor for various reasons, the chief of which are: that the language question has long been settled; that the strategic importance of M. will diminish, so as to enable the imperial gov. to view with much greater equanimity the islanders' attempts to work out their own destiny; and that the Maltese wish to remain within the empire. Self-government was restored in Sept. 1947. There are eight electoral dists., each returning five members under proportional representation to the Legislative Assembly from which the Cabinet of eight ministers are selected. The new constitution embodies women's enfranchisement for the first time.

The Siege of Malta in the Second World War.—The resistance of M. to attack from June 1940 to Nov. 1942 was a unique example of a combined operation in which the R.N., Merchant Navy, Army, R.A.F., and people of M. were all indispensable and inseparable; and to bear witness to their heroism the king in 1942 conferred the George Cross upon the I. From the day after Italy's entry into the war until the winter during the siege of 1942, when siege-raising ships fought through to the I., M. fought a continuous battle against the Gers. and Itals., against superior numbers, shortage of equipment, isolation, terror, and hunger. From this long-drawn battle the I. emerged in 1943 to dominate the central Mediterranean as a striking base, a strong weapon in the armoury of the allied forces, more deadly than ever before in the long list of warfare in the Middle Sea. But M. suffered heavily from the air attacks. During its long ordeal the I. had 3343 aileris. By the end of 1942 over 14,000 tons of bombs had fallen upon the 132 sq. m. of M. and Gozo. The enemy lost 1129 aircraft in the assault, of which 236 were destroyed by anti-

aircraft fire of ships and land batteries and the rest by Brit. fighters. In the I.'s defence 563 Brit. aircraft were lost. Enemy aircraft were prepared to face almost any losses in their effort to reduce the I. to impotence. Some of the most concentrated attacks were made in Jan. 1941, when the Gers. strained every nerve to destroy the aircraft carrier *Illustrious* which had put in for repairs. The Gers. threw at least 500 aircraft into the battle for Malta, half being bombers, mainly Junkers 88 and 87 types used for dive bombing. Much of the bombing was done with the object of eliminating the Maltese aerodromes, but also in the hope of damaging the naval forces in the harbour, which had been a thorn in the Ger. side when their convoys strove to get supplies to Rommel in Libya. By early 1942, air raids having been incessant throughout the previous two years, the skyline of M. had become much changed. Church spires and bellies were missing. There was not a single building of the knights of St. John which had not been destroyed or damaged. Though by good fortune the Conventual Church of St. John escaped serious damage, there were many grievous losses, especially the total obliteration of the church of St. Mary of Damascus, dating from 1576. Serious damage was done to the churches of the Carmelites and the Augustinians. The palace of the grand masters of the Order of St. John, begun in 1574, was hit by a bomb which destroyed the oldest part and seriously damaged the marble staircase of the grand master Verdala, the prin. architectural feature of the building. The Auberge de Castille, rebuilt in 1744, suffered heavy damage but has since been largely reconstructed. The building of the knights, where Napoleon stayed during his brief sojourn in M., was also wrecked. Other churches in Valletta destroyed or damaged included those of St. Ursula, St. James, St. Barbara, St. Francis, the Jesuits' church, All Souls, and St. Paul's Anglican Cathedral. St. John's Cathedral, built by the knights, had a 1000-lb. bomb hit direct on the sacristy. St. Paulus, a fine old church in Floriana, called after the first bishop of the I., who is mentioned in the Acts, also suffered a direct hit. The military hospital of the knights, with its 520-ft. long ward—the longest un-supported hall in Europe—was badly damaged. The Royal Opera House and the Maltese Club, where distinguished visitors to the I. have enjoyed hospitality, were also destroyed. Floriana, the immediate suburb of Valletta, with its walled promenade garden, was also devastated, with much suffering to the people. A great number of private dwellings throughout the I. were destroyed. In all about 35,000 buildings were destroyed or damaged, including three-quarters of the city of Valletta and from 80 to 85 per cent of the other I. The number of civilians killed or d. of injuries was 1486. The casualties would have been heavier than they were but for the fact that a large proportion of the people slept in the rock caves. One of the

largest shelters in Valletta was an underground city built in the bowels of Mt. Xiberras. Tunnels, which were hewn out of the rocks by the knights 300 years ago, were widened and lined with numbered cubicles; street names were painted at cross-roads in the tunnels. The worst damage to monuments in M. was to Valletta and to the dockyard area with its surrounding 'three cities' of Vittoriosa, Senglea, and Cospicua. This disproportionate large heavy loss and damage was due to the concentration of the majority of the is.'s architectural monuments round the dockland area. Fortunately there was little damage by fire, as Maltese buildings, even to the floors and roofs, are all constructed of the is.'s limestone. (On the loss of monuments see *Works of Art in Malta, Losses and Survivals in the War* (I.I.M.S.O., 1946).

In 1948-49 the revenue was £5,248,212, including an imperial grant of £300,000 for commodity subsidies; expenditure was £1,969,037. A free grant was given by Britain in 1942 of £10,000,000 for war-damage reconstruction, and another £20,000,000 was promised. Pop. (including Gozo) 306,000.

See C. Shaw, *Malta Sixty Years Ago. A Concise History of the Knights*, 1875; W. Frewen Lord, *Sir Thomas Maitland*, 1897; Canon A. Micallef, *Origine della Soprannita Inglese su Malta*, 1907; A. Bartolo, *The Sovereignty of Malta*, 1909; W. Hardman, *A History of Malta* (ed. by J. Holland Rose), 1909; T. Zammit, *Malta: The Islands and their History* (2nd ed.), 1929; Elizabeth W. Schermerhorn, *Malta of the Knights*, 1929; F. W. Ryan, *The House of the Temple: Story of Malta and its Knights*, 1930, and *Preistorie Malta*, 1930; L. Viviani, *Storia di Malta*, 1931; A. Maurois, *Malte*, 1935; A. V. Lufela, *Story of Man in Malta*, 1935, and *British Malta*, 1938; G. Muscat, *General Guide to Malta and Gozo*, 1937; C. Willis Dixon, *The Colonial Administration of Sir Thomas Maitland*, 1939; I. Hay, *The Unconquered Isle: the Story of Malta, G.C.C.*, 1943; I.I.M.S.O., *Air Battle of Malta and East of Malta, West of Sicily*, 1944; F. S. de Domenico, *An Island Discovered*, 1946; and Sir H. Luke, *Malta: an Account*, 1949.

Malta, Knights of, see HOSPITALIERS, KNIGHTS.

Malta Fever (Brucellosis), Undulant Fever, or Mediterranean Fever, specific febrile affection due to a group of micro-organisms discovered by Sir David Bruce, and named after him *Brucellosis*. *Brucella melitensis*, the micro-organism prevalent around the Mediterranean, is transmitted with the raw milk of goats, as shown by Sir Theodoros Zammit, M.D., C.M.G.; hence the disease was very prevalent in Malta where raw goat's milk was much in use, but it has now been much reduced and is being stamped out by having goat's milk boiled or pasteurised. The occurrence of rock fever in Gibraltar was traced to infection from the milk of goats imported from Malta. The diseases were found to be identical, and on the prohibition of Maltese goats the dis-

ease disappeared from Gibraltar. The disease has been found to be much more widely distributed than was formally supposed. It is common in N. Africa and is found also in S. Africa; it has also been reported from S.W. Texas and other countries. In 1910 Sir David Bruce described its occurrence in Ankole, on the E. shore of Lake Albert Edward. The presence of *B. melitensis* was shown to be the cause in all cases, and infection was traced to the goats of the dists. A closely related micro-organism, *B. abortus*, is the cause of contagious abortion of cattle and of abortus fever in man in Britain, U.S.A., and other countries. Undulant fever due to *B. melitensis* is characterised by an incubation period of one to three weeks, an irregular and prolonged fever sometimes occurring in waves (hence the term undulant). The temp. may keep low (much more so in abortus fever) but may rise to 105° with toxæmia and even higher to 108° in fatal cases. The course of the disease can be protracted from a few weeks to a year or more; arthritic and rheumatic pains are common complications and can leave sequelæ, but the newly discovered antibiotics aureomycin and chloromycetin have given hope of cutting short the course of the illness, and rapid cures are now in vogue.

Maltby, urb. dist. of the W. Riding of Yorkshire, on the R. Ryeon, 6 m. from Rotherham, on the E. Region railway. It is a coal-mining centre. Pop. 12,000.

Malte-Brun, Conrad, or **Malte Conrad Bruun** (1755-1826), Dan.-Fr. geographer and publicist, banished from Denmark (c. 1796) for his violent political pamphlets upholding the principles of the Fr. Revolution. With Mentelle and Herlin he collaborated in *Géographie mathématique* (1803-7). He founded the Geographical Society of Paris, and, with Eyriès, ed. the *Annals des voyages* (1808). His *Précis de la géographie universelle* (1810) was completed by Huot (1829). His poems also were much admired. See B. de Saint-Vincent, *Notice biographique*, 1897, and J. Quéraud, *La France littéraire*, 1827-64.

Maltese Dog, often, though wrongly, called Maltese terrier, the most ancient lap-dog, its type and character having been preserved for over two thousand years. The coat reaches nearly to the ground, and is straight and silky and parted from head to tail; it is pure snowy white. The eyes are dark, the nose black, the drop ears long, the back and legs short, and the feet small. The short tail is doubled into the coat on the back.

Malthus, Thomas Robert (1766-1834), Brit. political economist, was a pupil of Richard Graves and Gilbert Wakefield, and afterwards went to Jesus College, Cambridge, where he distinguished himself in classics and mathematics. He entered the Church, and in 1798 was curate at Albury in Surrey. He had already begun to write on economic subjects, and in 1798 wrote and pub. anonymously the famous *Essay on the Principle of Population as it affects the Future Improvement of Society* (1798, 1826). Charles

Darwin was led from a study of this essay to enunciate his theory of 'natural selection.' M.'s next most important work was *Principles of Political Economy with a view to their Practical Application* (1820). See C. V. Drysdale, *The Malthusian Doctrine in its Modern Aspects*, 1917; J. Bonar, *Malthus and his Work*, 1885, 1921; G. T. Griffith, *Population Problem of the Age of Malthus*, 1926; and H. Sutherland, *Laws of Life*, 1935 (anti-Malthusian).

Malton, mkt. tn. in the N. Riding of Yorkshire, England, on the Derwent, 17½ m. N.E. of York. Burnt in Stephen's reign, it was rebuilt as New M. There are remains of a twelfth-century priory and of a grammar school of Edward VI.'s time. Lime and whinstone are quarried near. Agric. implements are manufactured. There are corn mills, breweries, and foundries. Pop. 4,100.

Maltose, a di-saccharose sugar, having the molecular formula $C_{12}H_{22}O_{11}$, that is, having the same percentage composition, and molecular weight as cane-sugar and milk-sugar. It crystallises in the form of needles with one molecule of water of crystallisation. M. is produced by the action of malt on starch; the action is brought about by the presence of an enzyme diastase, and is an important item in the process by which beer is prepared from malt. As the grains of barley germinate the enzyme diastase is formed, and when the germination is stopped by heat and malt mixed with water at about 60° C., fermentation sets in which converts the starch into dextrin and M. The enzyme M. then converts the M. into glucose, which is finally converted into alcohol. See FERMENTATION; MALT.

Malus, Etienne Louis (1775-1812), fr. author and engineer. b. at Paris, was about to be made an army officer when the proscriptions of Bonaparte decided him to enlist as a common soldier. He so distinguished himself at Dunkirk in bridge construction that Lepere sent him to the École polytechnique (1793). A captain (1796), he was with the Egyptian expedition (1797), and sub-director of the Strasburg fortifications (1806-9). He made brilliant discoveries in the polarisation of light reflected from water or glass, and in 1807 wrote *Traité d'optique analytique*.

Malvaceæ, large natural order of herbs, shrubs, and trees most numerous in the tropics. They are all free from unwholesome qualities, and contain a quantity of mucilage, which is extracted from certain species by boiling and is used medicinally. The most important genus of the order is *Gossypium*, to which belong the cotton-producing plants.

Malvern, or Great Malvern, health resort and inland watering-place of Worcestershire, England, near the Severn, on the slopes of the M. Hills, 8 m. from Worcester, comprising the vlls. of M. Link, M. Wells, and Little M. The climate is bracing, and its saline, alkaline, and chalybeate springs are noted. The eleventh-century Benedictine priory has

been restored as a par. church. M. College, an important public school, was founded in 1362. Pop. 18,400.

Malvern: 1. Suburb of Melbourne (3 m. S.E.). Victoria, Australia. 2. Suburb of Adelaide, S. Australia.

Malvern Hills, hill range on the borders of Worcestershire and Herefordshire, England. They extend for 9 to 10 m. with abrupt heights, such as Worcester-shire Beacon (1395 ft., highest point) and Herefordshire Beacon (1300 ft.), an anct. Brit. fortress. Some areas of the M. H. are protected or owned by the National Trust.

Malvoisie, see MALMSEY.

Malwa ('mountainous country'), tableland of Central India, bounded S. by the Vindhya Mts. W. by the Aravalli range, N.E. by the valley of the Ganges, and E. by Bundelkhand. Among its chief states are Indore, Bhopal, Dhar, Jaora, Rajwarh, and Nimach. The chief city, Munda, is in ruins. It is noted for opium (exported from Bombay). Area 2737 sq. m. Pop. 330,000. See J. Malcolm, *Central India*, 1823; C. E. Luard, *A Bibliography of Literature dealing with the Central Indian Agency*, 1908.

Malwan, seaport, containing Raikot Fort in Ratnagiri dist., Bombay Prov., India, 50 m. from New Goa. It was once a stronghold of the Marathi pirates. Salt and iron ore are found near by. Pop. 17,000.

Maly Khingan, see KHINGAN, GREAT AND LITTLE.

Mamaroneck, residential tn. of Westchester co., New York, U.S.A., on Long Is. Sound, 20 m. N.N.E. of New York. It includes Larchmont vll. and part of Mamaroneck vll. Pop. 13,000.

Mambajao, tn. in the dist. of Misamis, Philippines, on the N.E. of Camiguin Is., off Mindanao. Pop. 18,000.

Mambusao, pueblo (tn.) of Capiz Prov., Panay Is., Philippines, on the R. Malmanang, 16 m. from Capiz. Pop. 10,000.

Mameli, Goffredo (1827-19), It. poet and patriot, b. at Genoa. He wrote the war song *Pratelli d'Italia*, and d. in defence of Rome.

Mamelukes (Arabic *memalik*, a slave), former class of slaves in Egypt, who became and long remained the dominant people of that country. Their dominion continued in Egypt for 253 years, and during that time they made many important conquests, and in 1291 drove the Franks entirely out of the E. They had their origin in the importation into Egypt of a large number of Turkish slaves from the Caucasus and neighbouring regions by the sultan of Egypt in the middle of the thirteenth century. They soon displayed insubordination, and finally, in 1251, appointed one of their own number sultan of Egypt. From this time to the Ottoman conquest in 1517, Egypt and Syria were ruled exclusively by the Mameluke dynasty. In 1811, by a stratagem, a general massacre of the M. was ordered by the pasha of Egypt, Mehmet Ali. The few survivors managed to escape to New Dongola, but were virtually exterminated in 1820. They

were famous for their courage and skill in horsemanship, and their military organisation was far in advance of their time. They were also munificent patrons of art and literature. See W. Muir, *The Memeluke or Slave Dynasty of Egypt, 1260-1517*, 1896.

Mamers, see MARS.

Mamilius, or Mamilla Gens, name of a distinguished plebeian family of Rome, who came originally from Tusculum in anc. Italy. They claimed descent from the daughter of Telegonus, reputed founder of Tusculum. The gens comprised the three families Mamianus, Turrinus, and Vitulus. Octavius M. led the Lat. against Rome after Tarquin's expulsion, and was killed at Lake Regillus (c. 496 B.C.).

Mammals, or Mammalia, classification invented by Linnaeus for those vertebrates which suckle their young. M. differ from all other vertebrates not only in nourishing the young, which are born alive, by means of mammary glands (q.v.), but in being covered with hair. Three characteristic internal features are seven vertebrae in the neck, epiphyses to the centre of the vertebrae, and a diaphragm which separates the thoracic from the abdominal cavity.

Until 1881 it was supposed that M. were consistent in being viviparous, but it was then demonstrated that primitive forms of M. still exist which lay eggs. These, comprising three species of a single order Monotremata, have been placed in a sub-class Prototheria or primitive animals. The best known of these interesting links with the reptiles is the duck-billed platypus (*Ornithorhynchus* (q.v.)), native of Australia and Tasmania. The others are the spiny ant-eaters (*Echidna*), also natives of the same continent. The female *Echidna* produces a temporary pocket for her young, which disappears when they are able to look after themselves, and in this respect exhibits some relationship to the marsupials which comprise a second of the sub-classes of M. (Metatheria). This sub-class is characterised by the possession of the marsupium, a permanent pocket in which the young are placed as soon as born. In these the period of gestation is short, and the young, helpless, are but little developed when born. They attach themselves to a teat and the milk is forced into their throats by muscular action on the mother's part. For a long time marsupials were believed not to form a placenta, but the occurrence of a peculiar form of this complex structure has been discovered in some marsupials. Except for the opossum of N. America and a few S. Amer. species, the Metatheria are now confined to Australasia, although at one time their distribution was very extensive. Indeed many of the higher M. are believed to be descended from them. They vary widely in their types and habits; some are herbivorous, some rodent, and some carnivorous.

The third sub-class of M. is the Eutheria. In all the members of this sub-class the reproductive organs are highly developed, the period of gestation is relatively long,

and the young are born in an advanced state of development. This sub-class has been variously classified, but the general modern arrangement is in nine orders, as follows: (1) Edentata; (2) Sirenia (the sea-cows); (3) Ungulata (hoofed M.); (4) Cetacea (whales); (5) Rodentia; (6) Carnivora; (7) Insectivora; (8) Chiroptera (bats); (9) Primates. In Edentata and Cetacea the teeth tend to be suppressed, but in the other orders they are important features and of great assistance in classification. Generally speaking, M. are terrestrial in habit, but the Sirenia, Cetacea, and sea Carnivora are important exceptions. The fact that they are air breathers, having no gills, or their equivalent, which would enable them to stay under water for more than a limited period, indicates that they are probably land animals which have adapted themselves for an aquatic life. The only M. with true powers of flight are the Chiroptera or bats. (Other so-called flying animals have only a broad fold of skin on each side of the body which sustains them in the air for a limited time. The bat's wings are composed of a thin flexible leathery membrane stretched between the bones of the fore- and hind-legs. All M. bear some hair at some period of their existence, even if only in the foetal stage, as in the Cetacea, where a layer of blubber under the skin displaces the hair. The Edentata, which include the pangolin, sloth, ant-eater, and armadillos, are characterised by the absence of teeth in the front of the jaw. Many of these animals are arboreal and some are burrowing. Sirenia include only two genera of living animals; a third, *Steller's Rhynchoceros*, became extinct early in the nineteenth century. To this order belong the manatees and dugongs, characterised by a long, cylindrical body, flipper-like fore-limbs, and by the absence of hind-limbs. There are no ears, and the eyes are very small. The animals feed entirely on aquatic vegetation and occur on the coasts of both Africa and America. The Ungulata include all the hoofed M., and form a large order, comprising such diverse forms as the horse, elephant, and the cow. The toes vary from one to five in number, and never bear claws, but are usually provided with hoofs. The Rodentia are the gnawing M., and include a large number of some of the smallest forms, such as mice and rats, hares, rabbits, and many S. American animals. Their incisor teeth are large and sharp, and consist usually of a pair in both jaws. They are kept sharp by the back surface, which has no enamel coat, wearing away faster than the front. They are mostly herbivorous, but some are practically omnivorous, and are serious enemies of man. The Carnivora include many of the most magnificent M. Though mainly flesh-eating the members of this order are somewhat artificially classified, for the bears are largely vegetable-feeders. Carnivora are either fissioned, the limbs being converted into appendages with separate clawed digits for terrestrial life, or pinniped, the limbs being converted into flippers for aquatic life. The fissioned

are sub divided into cats, dogs, and bears, also included are the raccoon, stoat, weasel, otter, badger, etc. The pinnipeds comprise the seals, sea lion and walrus. The Insectivora, or insect eaters are placed high in the classification of M. on account of their relationship to lemurs, but their brain exhibits a rather low organisation and they probably had a common origin with marsupials. The mole and the hedgehog are familiar examples of this order, which is unrepresented in America and Australasia. The Chiroptera or bats are specialised Insectivora, differing from other Insectivora essentially in powers of flight. They are widely distributed over the surface of the globe but abound chiefly in the tropics. They are nocturnal in habit

size of the M. G. increases from the age of puberty, and reaches its greatest size towards the end of pregnancy and during lactation. In later life the breasts are apt to become pendulous.

Mammea Americana, large tropical tree (family Guttifera). Its showy flowers are distilled by the inhabitants of tropical America to produce a medicinal tincture. A strong perfumed liquor and the huge double and bitter fruits known as mammea are eaten.

Mammertium Fertum, see *MISSINA*.

Mammillaria, large genus of succulents (family Cactaceae) with fleshy leafless stems rarely higher than 12 in. and often only a few inches and round and flattened or cylindrical or branching from



THE MAMMOTH IN ARTIST'S REPRESENTATION

and though the brain is not highly developed, the senses are all exceptionally acute. The Primates, or highest M., are divided into three sub orders, the Chiromyoides or aye ayes, the Lemuridae, or lemurs, and the Anthropoides which include all monkeys, apes, and man. See also BIOLOGY and the separate articles on individual orders and species. See Sir W. Flower and R. Lydekker, *Introduction to the Study of Mammals*, 1891, F. F. Boddard, *Mammalia* 1902, A. Thorburn, *British Mammals* 1920, G. C. Shortridge, *Mammals of South West Africa*, 1934, J. G. Boulenger, *Apes and Monkeys* 1936, and W. J. Hamilton *American Mammals*, 1940.

Mammary Gland, organ which secretes the milk with which mammals feed their young. It is thought to be a modified form of the sebaceous gland of a hair follicle. The female breast in the human being extends between the second and sixth ribs. It is composed of sev. lobules each of which has a *lactiferous duct* leading to the nipple. The nipple is surrounded by a circular patch called the areola, which is ordinarily pigmented. The pigmentation deepens to dark brown during pregnancy and lactation. The

base. Arranged in various designs over the surface are tubercles or nipples which bear spiny leaves in tufts, rosettes, or stars. The flowers spring from the axils of the upper tubercles and though small and fugitive are showy and are followed by fleshy tinted berry like fruits. A dry worn greenhouse suits most Ms.

Mammola, com and in of Reggio Italy 7 m from Gerace. Top 9500.

Mammon, or more correctly *Mamon* (representing the Aramaic *mammona*, 'wealth' or 'riches'). The derivation of the word is uncertain but it was used by the Phoenicians for 'gain' or 'profit'. In the NT M. is personified and set in opposition to God being used in the sermon on the Mount and the parable of the Unjust Steward (Matt. vi. 21, Luke xvi. 13). The 'mammon of unrighteousness' or 'unrighteous mammon' is a phrase which occurs in 1 John iii. 10. Personifying inordinate gain, medieval European writers used the name for a demon, figured in Milton's *Paradise Lost* as a fallen angel of sordid character.

Mammoth, best known of the extinct elephants (*Elephas primigenius*). Since 1799 many perfectly preserved specimens have been found, principally in the ice of

N. Siberia. It was of great size, and differed mainly from the living members of the order Proboscidea by the thick, hairy covering, and the tuks, some 8 ft. long, curved upwards, inwards towards the head, and out sideways in somewhat spiral fashion. The remains of the M. have been found in enormous number, not only in the neighbourhood of the Arctic Sea, but throughout Europe and N. America as far S. as the gulf of Mexico. Examination of many remains shows that the prin. food was young shoots of the fir and pine, and it was probably some overwhelming cataclysm which ultimately exterminated them rather than inability to find enough food.

Mammoth Cave, great cavern formed by a series of vast chambers in Edmonson co., Kentucky, U.S.A., between Nashville and Louisville, first explored in 1809. It is 6 m. from Cave city. The diameter of the whole cavern's area is 9 to 10 m., the total length (including all passages and avenues) is estimated at 150 m. In some of the grottoes there are branches of the subterranean R. Echo. M. Dome is 110 ft. long, by 200 ft. wide, by 120 ft. high. Blind fishes, crickets, crustacea, and insects have been found in the caves. Bats abound in the outer galleries. The temp. ranges from 54° to 59° F. It is famous for its stalactites, resulting from the action of water on the limestone formation, and is considered the finest cave in the world. See R. H. Ward, *Plan and Description of the Cave in Kentucky*, 1816; A. S. Puckard and F. W. Putnam, *The Mammoth Cave and its Inhabitants*, 1879; H. C. Hovey, *Celebrated American Caverns*, 1897; and J. W. Turner, *Wonders of the Great Mammoth Cave of Kentucky*, 1912.

Mammoth Hot Springs, group of thermal springs in the N. of Yellowstone National Park, Wyoming, U.S.A., about 1000 ac. in area. They are remarkable for their snow-white calcareous deposits. The waters are turquoise-blue in colour, the temps. varying from 60° to 175° F. They are unrivalled since the terraced springs of Rotomahana (New Zealand) were destroyed.

Mamore, riv. of S. America, forming part of the boundary between Bolivia and Brazil, sometimes regarded as the main headwater of the Madeira. It is formed by streams rising in the Cochabamba Mts., and is called Rio Grande in part of its course.

Mam Tor, or **The Shivering Mountain**, hill of Derbyshire, England, crowned by a Brit. camp. It commands magnificent views over Kinderhook and the uplands above Castleton and Edale; it is owned by the National Trust. Height 1700 ft.

Mamun, see AL-MAMUN.

Mamurat-ul-Aziz, **Mamuret-ul-Aziz**, or **Kharput**, a former vilayet of Asiatic Turkey, now mainly included in Kurdistan, 60 m. from Diarbekir. The collogo of Armenia is here. Cap. Mezereh.

Man, zoologically speaking, is a genus of the order Primates, or highest order of mammals. This order is usually divided into three groups, the Anthropoides, including M., apes, monkeys, and baboons,

the Lemuroidea or lemur-, and the Chiro-myloidea or aye-ayes. As far as mere physical characteristics go, M. must be considered as related to monkeys and apes; in common with those animals he possesses five fingers and five toes, armed with flat nails towards the extremities, has a similar array of teeth, which are normally preceded by milk-teeth, has a simple stomach, and lives mainly on a vegetarian diet. The young are brought forth usually one at a time and are quite helpless at the time of birth.

Towards the latter half of the nineteenth century a strenuous controversy arose as to M.'s place in the animal world, but it is now generally conceded that, as far as physical characteristics are concerned, there is no reason to suppose that M. is other than a form of development with characteristics sufficiently in common with monkeys, apes, etc., to justify his being placed in the same order of mammals. M. does not differ from those animals in possessing structures fundamentally different, but only in possessing them either in a more rudimentary form or in a more developed form. The protein metabolism of both man and apes differs from that of other mammals in that uric acid is not broken down into urea. Some of the ways in which M.'s physical organism differs from that of the rest of the Primates may now be pointed out. The lower limbs are long, and the upper limbs short in M. as compared with the apes. He maintains an erect posture, stands flat upon the soles of his feet, instead of on the outer edges, as most apes do. His backbone has a graceful sinuous curve which is entirely wanting in other members of the order. The neck is long and flexible, and the head is set normally to look ahead when the individual is in an erect posture. His skull shows a marked diversity of proportions to those of apes generally; the brain-case is large and the jaws are not massively developed. The teeth are regular; although the different forms are distinct on examination, they make an even series without any break and without any individual teeth projecting markedly beyond the rest. The body is for the most part devoid of hair, but in the beard and head hair may attain a length which is peculiar to the human genus. The thumb is long, and opposes itself easily to any of the other fingers; on the other hand, the big toe is not opposable at all, and the foot has little power of prehensile movement. Probably the most important difference between M. and other members of the same or any order is the higher physical development of the brain. Not only is the size greater in proportion to the rest of the body, but it presents a more elaborate series of folds, or convolutions. When it is understood that the physical processes corresponding to the highest mental activities are located in the cortex or rind of the brain, it is seen that the extent and number of the convolutions, by increasing the area of the cortex, must play a considerable part in determining the intellectual effectiveness of the animal.

It appears, therefore, that the physical

differences between M. and his nearest kin in the animal world are of degree rather than of kind. It is difficult to point to any one characteristic which can be looked upon as an adequate cause for M.'s superiority over other animals. The truth probably is that many causes have contributed to that superiority. Among them, in addition to mere size of brain, may be quoted the adaptability of his hands to many uses, allowing a degree of manipulation impossible to other animals, the more exquisite differentiation of sense perception than is apparent in most animals, the voice capable of many various sounds and so lending itself to the formation of a language. When differences other than physical are considered, the superiority of M. is so great as to incline some to the opinion that M. is a separate creation on the ground of his mentality alone. However great this superiority is, it does not appear that M. possesses any faculty or faculty fundamental mental process which is not possessed in some degree by some lower animal or other, save that of purely abstract intellection. Memory, the powers of abstraction, and of reasoning are demonstrably possessed by certain animals, if only in a rudimentary form. Present-day opinion strongly inclines to the theory that the processes of evolution as ordinarily understood are quite sufficient to account for the marked superiority of a single species.

Origin and Antiquity of Man.—The ultimate origin of M. is a problem bound up with that of the origin of organic life as a whole, as the conception of a sudden creation of separate and permanent species has long been abandoned by scientists. It has, however, been the aim of many anthropologists to arrive at a form of animal which may reasonably be supposed to represent the common ancestor of M. and his nearest relatives in the animal world. At various times human or semi-human remains have been discovered which bear an ape-like appearance. The generalisations made as a result of the examinations of the Neanderthal, Java, and Piltdown skulls have had to be considerably modified owing to discoveries during the twentieth century. These include a skull, *Australopithecus*, discovered in 1924 at Taung in Bechuanaland, which has aroused considerable discussion and discussion amongst anthropologists. Dr. Raymond Dart of Witwatersrand Univ. gave it the name of *Australopithecus*. The shape and proportions of the brain resemble those of primitive types of human beings, but the size and convolutions correspond to those of the apes. On this and other evidence it is regarded by some anthropologists as belonging to the same stock as the gorilla and chimpanzee, and by others as human. In either case it provides valuable evidence in support of the theory of the common origin of men and apes. Other interesting discoveries in Palestine show that Neanderthal man lived there, as in Europe. In both Europe and Palestine he was followed by Neanthropic man, but the place of origin of the latter has long

been problematic. Sir Arthur Keith suggests that the Piltdown skull may possibly be the early Pleistocene ancestor of modern European races. In S. Greenland a skull, most probably less than 1000 years old, was unearthed in 1926. It is extraordinarily similar in many respects to skulls of auct. palaeolithic man, and it has been suggested that this skull is an atavistic form. It also resembles modern skulls deformed by acromegaly, a disease due to abnormality of the endocrine system. The interest in this skull, *Homo gadarensis*, lies in the fact that a modern skull, either as a result of disease or some other cause, should so closely resemble a palaeolithic skull. *H. gadarensis* affords confirmatory evidence of the suggested line of descent of modern M.

In May 1914 there was discovered in the Olduvai Gorge M. in the Great Rift valley not far from Nairobi a site where evidence of occupation by prehistoric Acheulian M. had been found. This site was formally declared by the gov. of Kenya to be an archaeological reserve. Hitherto, however, no bones have been found which can be unhesitatingly attributed to Acheulian M., a term which in itself is misleading, as it describes not a variety of M., but a M. who made and used a certain sort of chipped stone instruments. But Africa is undoubtedly assuming more and more importance for M.'s prehistory. If men 'atavistic' i.e. became differentiated from a non-human stock) in one single area of the world, then, until a short time ago, most anthropologists would have set that area in Asia, and more especially in S.E. Asia. The balance of what evidence there is still favours an Asiatic home for the earliest men, but the balance is not so marked as it was. The most ancient forms of men are still to be found in the Far E. sites, Java and China, but every day it is becoming clearer that Africa played a great part in M.'s early hist. Fossil material (Hominoida) discovered recently at Sterkfontein and Kromdraai is believed to represent a link in the evolution of M. Prof. Le Gros Clark thinks that the skulls found here can be interpreted as slight modifications of the chimpanzee or gorilla, or as very closely related to M., coming near to what was popularly known as the 'missing link,' and in an extraordinary number of details these specimens are said to show such typically human characteristics as to rule out parallelism. Thus the face bones were typically human, the teeth, though larger, were quite human in their proportions and pattern, and some of the limb bones were quite different from those of the anthropoid apes. These creatures are described by Prof. Le Gros Clark as in fact similar to *H. sapiens*, although they had much smaller brains at this stage of their development. Dr. J. S. B. Leakey too has recently discovered in Kenya and Uganda fossil remains of primitive and now extinct forms of Hominoida, or group to which M. belongs. His discovery of the first jaw yet found of an ape of such antiquity (lower Miocene (q.v.) period) is of first-class importance if it establishes that

in the early Miocene age the apes had already begun their own divergence.

At present no remains have been discovered older than the early Pleistocene period, and the antiquity of man is provisionally suggested as about 250,000-300,000 years, but new discoveries may modify the present conclusions with regard to M.'s origin and antiquity. It may be too early to assess the full significance of the recent S. African fossil discoveries. Since 1936, and notably in 1947, sev. skulls of adults of the same fossil group, together with jaws and limb bones, have been found 40 m. W. of Johannesburg by Dr. Broom, the Transvaal palaeontologist. The common group to which all these S. African remains belong is now recognised as one sub-family, the Australopithecinae, and it is believed that they date either from the beginning of the Pleistocene age or from the later Pleistocene, which would date M.'s hist. as 1,000,000 years or more. These facts support the theory which includes the Taung skull, mentioned above, as human. But the question still remains of their place in the classification of the higher Primates. They show much closer resemblances to M. than do any of the living or fossil apes known, but this leaves open the question whether they should be grouped with the Homiidae or with the anthropoid apes. If the absolute size of the brain is the most important criterion, the Australopithecinae are to be regarded as apes of a very advanced type, showing, in the details of their anatomy, a remarkable approximation to the Homiidae and no very close relationship to the modern anthropoid apes. But if more emphasis is laid on the criteria of the skull structure, dental anatomy, and the details of the pelvis and limb bones, there is no doubt that they should be grouped with the human family or exceedingly primitive types of mankind. Further important discoveries were made in S. Africa in 1948 and 1949. At Swartkrans colony there was evidence of a large ape-man with a jaw far larger than that of any M. and yet with human teeth. His brain is 850 000 c.c. and therefore within human range. At Makapan Prof. Dart found another type, also with a large brain, and in some ways so human that it was difficult to decide whether to call it M. or not. According to Dr. Broom the S. African caves will solve the problem of M.'s origin within the next two or three years and prove that M. did not evolve from an anthropoid of the chimpanzee type but from an ape which might even have been pre-Anthropoid.

Future of Man.—It is sometimes maintained that M. has now arrived at a fairly permanent physical form, but it is difficult to reconcile the idea of a creative evolution having precisely this form as its limit. Through increasing knowledge M. is likely to take a greater and greater part in the estab. of his own environment, and may in a sense determine his own evolution. It may be said that there are two tendencies perceptible as to the manner in which a different type may be reached;

one is the tendency to differentiation of individuals and races, the other is the tendency to the movement of mankind as a whole. The first tendency can be seen in such conceptions as a chosen race, the authority of conscious superiority as in the superman, with its corollary of subject individuals or subject races, and the like. On the other hand we have the conception of solidarity implied in the idea of a common humanity with the widest possible notion of social obligations. This antithesis expressed itself in the rival ideologies of the Ger. *Herrenvolk* and the world democracies. Still more speculative than the probable results of human endeavour for M.'s uplifting are the problems of M.'s possible enemies and conquerors in the evolutionary struggle. Some writers see in the organisation and adaptability of some sections of the insect world the rudiments of a development which will surpass and conquer human development. Others see in the great diversity of animal forms below us, which have no consciousness of our existence, the possibility of a corresponding diversity of animal forms above us with which we have not yet come into contact or, consequently, conflict. Of more practical import are the efforts of bodies of men like the modern 'eugenists,' who seek to improve the race in directions which will meet with the common approval. Their efforts are as yet restricted to the prevention of the propagation of tendencies we know to be harmful to the physical well-being of mankind. Further than that our ignorance of our common destiny makes it impossible to advance. This essay deals with anthropological and biological M.; for M. considered as a spiritual being see CREATION; PHILOSOPHY; PSYCHOLOGY; RELIGION.

See also ANTHROPOLOGY; BIOLOGY; DARWINISM; ETHNOLOGY; EVOLUTION; HEREDITY; KEITH, SIR ARTHUR.

See C. Darwin, *Descent of Man*, 1871; R. Wiedersheim, *The Structure of Man, an Index to His Past History*, 1895; A. H. Keene, *Man, Past and Present*, 1899; E. Haeckel, *The Riddle of the Universe*, 1900; T. H. Huxley, *Man's Place in Nature*, 1908; J. McCabe, *Prhistoric Man*, 1910; J. H. Robinson, *Mind in the Making*, 1921; G. M. Smallwood, *Man, the Animal*, 1922; R. R. Gates, *Heredity in Man*, 1925; F. A. E. Crew, *Organic Inheritance in Man*, 1927; A. E. Wiggam, *The Next Age of Man*, 1927; G. E. Smith, *Human Nature*, 1927; F. Tilney, *The Brain from Ape to Man*, 1928; F. W. Jones, *Man's Place Among the Mammals*, 1929; E. V. Cowdry (ed.), *Human Biology and Rural Welfare*, 1930; Sir A. Keith, *New Discoveries Relating to the Antiquity of Man*, 1931, and *A New Theory of Human Evolution*, 1945; G. E. Smith, Sir A. Keith, and others, *Early Man: His Origin, Development, and Culture*, 1931; A. Teynbee, *A Study of History*, 1935; H. E. Walter, *Biology of the Vertebrates*, 1939; J. Huxley, *Evolution: the Modern Synthesis*, 1942; R. Brown, *The Fossil Ape-Man of South Africa*, 1947; R. E. D. Clark, *Darwin: Before and After*, 1948;

G. R. Stewart, *Man: an Autobiography*, 1948; A. H. Brodrick, *Early Man: a Survey of Human Origins*, 1948; and Anne T. White, *Man Before Adam*, 1949.

Man, Isle of (anc. Monapia, or Menavia; Manx Vannin, or Mannin, middle), small is. in the Irish Sea, almost equidistant (hence its name) from England and Ireland, about 16 m. from Burrow Head, Scotland; it belongs to Great Britain. Its area is about 227 sq. m. and its pop. 49,300. A cable (32 m. long) runs between Port of Ayre and St. Bees. A tiny islet known as the Calf of M., an important nature reserve, lies to the S.W. A mt. range stretches from N.E. to S.W. through the is., culminating near the centre in Snafell (c. 2030 ft.). The climate is very equable, W. and S.W. winds predominating, while fuchsias, myrtles, and other exotics flourish all the year round. Lead, copper, iron, and zinc are found, but no coal. The Laxey lead mines yield quantities of silver. The is.'s small breed of horses are noted and its tailless cats. There are herring, mackerel, and other fisheries. Granite, marble, limestone, and greenstone are quarried. The is. is a favourite holiday resort, and has steamboat services to Liverpool, Barrow, Silloth, and other ports. The chief tns. are Douglas (cap.), Castletown, Peel, and Ramsey. The inhab. are Manx (Menavia) of Celtic race. From the sixth to the ninth century they had Welsh kings. These were followed by a Scandinavian dynasty, who in turn yielded their rights to Alexander III. of Scotland (1266). In 1106 the is. was granted to the Stanleys (earls of Derby), and was purchased by the Brit. Gov. after long negotiations (1765-1829) from the dukes of Atholl, who held it from 1735. The is. forms the bishopric of Sodor and M. It has its own Lieutenant-governor, council, and House of Keys (a representative assembly of twenty-four members chosen on adult suffrage). The is. is not bound by Acts of the Imperial Parliament unless specially mentioned in them. Pop. 50,000. See J. G. Cunningham, *History of Man*, 1818; W. Harrison (ed.), *The Old Historians of the Isle of Man*, Camden, Speed, etc., 1871; A. W. Moore (ed.), *The Manx Nole Book*, 1855-87; Sir S. Walpole, *The Land of Home Rule*, 1893; A. Herbert, *The Isle of Man*, 1909; G. E. Underhill, *Isle of Man*, 1923; W. W. Gill, *Manx Scrapbook*, 1929; R. D. Farrant, *The Isle of Man*, 1937; and the publs. of the Manx Society, comprising monographs on the hist., antiquities, language, laws, etc. (1859-95).

'Man, The,' card game, see OMBRE.

Manaar, or Manar, Gulf of, arm of the Indian Ocean between Ceylon and S. India, separated from Palk Strait by the is. of Rameswaram and M., and a reef, Adam's Bridge. It is about 150 m. wide at the entrance, and has pearl fisheries. M. Is. is situated W. of N. Ceylon, at the gulf's head, and is 18 m. long by 2½ m. broad. The tn.'s pop. is about 3300.

Manabi, maritime prov. of Ecuador, S. America, between Esmeraldas and

Guayas. Sugar and cacao are produced. Puerto Viejo (c. 80 m. from Guayaquil) is its cap. on a small riv. flowing into the Pacific. Pop. 312,850.

Manacle Rocks, or Point, dangerous reef off the S.E. coast of Cornwall, England, by St. Keverne, 7 m. S. of Falmouth.

Manacles, see HANGCUFFS.

Manacor, tn. of Mallorca, Balearic Is., Spain, 30 m. E. of Palma, 10 m. from the port of Arta, where there are noted stalactite caverns. It is a bishop's see, and contains an auct. pulace. Wine, oil, fruit and cereals are produced. Pop. 13,100.

Manado, see MENADO.

Management, Office, see OFFICE MANAGER-MENT.

Managua: 1. Lake of Nicaragua, Central America, drained by the Tipitapa, S.E. into Lake Nicaragua, separated by volcanic hills from the Pacific. Lake M. or Leon has the volcano, Momotombo, on its N.W. shore. Sev. steamers ply on the lake. 2. Dept. of S.W. Nicaragua, bounded S.W. by the Pacific, N. by Lake M. Much coffee is exported. (3) Cap. of above and of Nicaragua (since 1851) connected by rail with Granada. N. of Lake M. The prin. products include sugar, coffee, cattle, and cocon. It is on the air route from Miami to Cristobal, and has a wireless station. It was selected as cap. by way of compromise between the two rival strongholds of political action, Leon and Granada. In 1931 the city was devastated by an earthquake and had to be almost entirely rebuilt. Pop. 132,200. See also under NICARAGUA; LYON.

Manakins (Pipridæ), family of Mesomyioid or songless birds of small size, occurring in forest dists. in the N. part of S. America. Like the closely allied tyrants, M. feed largely on insects, but also eat fruit and seeds.

Manamah, or Manama, tn. and the commercial cap. of the Bahrain Is., Persian Gulf. It has hospitals, school, a wireless station, and is the official residence of the ruler. Pop. 25,000.

Manaos, cap. of the state of Amazonas, Brazil, situated on the Rio Negro about 10 m. from its junction with the Amazon It. The Rio Negro is navigable for riv. boats through the narrows above M. Its chief exports are india-rubber, Brazil nuts, fish, cocon, and hides. It has a private univ. In the seventeenth century M. was important as a concentration point for slaves captured at many scattered places upstream. Later settlements of colonists appeared around M. occupied in the production, over small areas, of cacao and sugar cane. But it was the rubber plantations which brought prosperity and by the late nineteenth century the chief centres of both people and wealth were the cities of M. and Belém. Pop. 107,500.

Manapla, tn. in the prov. of Negros Occidental, is. of Negros, Philippine Is., situated in the extreme N. of the prov. Pop. 20,000.

Manaria, see MELORIA.

Manasarowar, or Tso-Mapham, lake of Tibet situated at the base of Mt. Kailas,

about 15,000 ft. above the level of the sea. In Hindu legends it is a sacred lake, and is an object of pilgrimage both for Tartars and Hindus. Area 150 sq. m.

Manassas, co. seat of Prince William co., Virginia, U.S.A., 30 m. W.S.W. of Washington, D.C. Near here was the scene of the two battles known as the battles of Bull Run, fought in 1861 and 1862 during the Civil war. Pop. 1300.

Manasseh, eldest son of Joseph, b. in Egypt. His descendants formed a tribe who received lands on both sides of the Jordan. M. was deprived of the precedence due to him by reason of priority of birth by Ephraim, on whose head their grandfather Jacob placed his right hand in blessing instead of his left, M. thus taking the second place.

Manasseh (Ben Joseph Ben Israel) (1604-1659), learned Jewish writer, b. in Lisbon; at eighteen he was rabbi at Amsterdam. Deprived of his property by the Portuguese Inquisition, he began to publish books. His knowledge of the Scriptures was so great that even eminent Christians referred to him. His greatest work, which took twenty-nine years to write, was an effort to reconcile 172 apparently contradictory biblical passages. For an abridgement of his writings see J. Basnage, *History of the Jews*, 1708.

Manatee (Manatus), marine mammal of the order Sirenia, which, though of ungainly appearance, is probably the origin of the mermaid superstition. It ranges along the W. coast of Africa and the E. coast of tropical America, and ascends the river where it browses on the aquatic vegetation. Ms. are slow and inoffensive, but for their valuable oil and their skin and flesh they are hunted and their numbers are rapidly diminishing. They are from 8 to 12 ft. long; their skin is like an elephant's, and the long body ends in a tail like a beaver's. The forepaw or flipper has small, flat nails, and its resemblance to the human hand is supposed to have given M. its name. The upper lip is cleft, and the parts diverge and clasp the food in eating.

Man-aung, see CHITUBA.

Mánbhum, dist. of Bihar Prov., India, forming the E. of Chota Nagpur. Its cap. is Purulia, and it contains the Jharia coal-field (N.). Rice, cereals, and tobacco are produced. Area about 1131 sq. m. Pop. 2,032,000.

Mancha, La, old dist. of Spain, in the S. of New Castile, now comprised in the provs. of Ciudad Real and Albacete. It is noted for mules, and for Val-de-Penas, a light red wine. Cervantes's characters, Don Quixote and Sancho Panza, have made the dist. famous.

Manche, maritime dept. of N.W. France on the Eng. Channel (La Manche), formed (1790) from the old prov. of Normandy. It consists in part of the peninsula of Cotentin, terminating N.W. in Cape la Hague. It has four arrons., St. Lô, Avranches, Cherbourg, and Coutances. The chief products are grain, flax, hemp, beetroot, and fruit (especially apples for cider), and horses are reared. In the S.W. is the bay of St. Michel, lying around

the Tombelaine and Mont St. Michel. St. Lô is the cap., and Cherbourg is on the N. coast. It was the scene of Allied landings of June 6, 1944. Area about 2475 sq. m. Pop. 435,200.

Manchester, Edward Montagu, second Earl of (1602-71), Eng. general and statesman. Created Baron Montagu of Kimbolton in 1626 he succeeded to his father's title in 1642. Both in the short and Long Parliaments he identified himself with the popular and puritan cause against the king and was accused with the 'five members' of high treason, but exonerated by a Bill passed in both houses. After the outbreak of civil war, M. raised money in London for the parliament, and in Aug. 1643 he was put in command in place of Essex. He took Lynn Regis and Lincoln, and fought at Marston Moor and Newbury (second), but owing to his general lethargy was retired in favour of Cromwell. See B. Falk, *The Way of the Montagues*, 1947.

Manchester, city, municipal co., and parl. bor. of Lancashire, England, 189 m. N.W. by N. of London. M. may be said to have grown up with the cotton industry of which it is the centre. It is a modern city covering an area of 27,255 ac. (43 sq. m.). Five rivers flow through the city, the Irwell, Mersey, Medlock, Irk, and Tib, the latter being continuously built over; and the M. Ship Canal (q.v.) connects M. to the Mersey estuary at Eastham, making the city, though 35 m. from the sea, one of the most important seaports in the country. M., being a regional cap., is the home of gov. offices and of the N. presses of at least five popular national newspapers. The total of morning daily papers is seven, of which the *M. Guardian* (q.v.), the leading Liberal daily newspaper in the country, is pre-eminent. Principal thoroughfares in the centre of the city are Market, Oxford, Cross, and Corporation Streets, Piccadilly, and Deansgate. Communications are good. With the exception of numerous parks, green belts, and open spaces, the whole area within 3 m., and along the main roads within a 10 m. radius, is continuously built-up, road and rail transport linking up the various suburbs and surrounding trs.

M. has been the seat of a bishop since 1847, James Prince Lee (d. 1869) being the first bishop. The cathedral, formerly the par. church, is not architecturally outstanding, though a good specimen of the Perpendicular, the principal part frequently restored, dating from the fifteenth century. There are one or two fine windows, but the chief distinction is the splendid carved woodwork in the choir. During the air raids of Dec. 1940 the Long Millgate corner, containing the Regimental Chapel, Ely Chapel, Lady Chapel, and Jesus Chapel, was destroyed and serious damage was done to the roof, fabric, and organ; repairs were commenced in 1946. M. is the bp. of Nonconformity and is well endow'd with churches of all denominations. There are also sev. Jewish synagogues and an unusually fine Quaker meeting house.

One of the most interesting old buildings is Chetham's Hospital and Library, built in the early fifteenth century on the site of a former baronial hall. There are sev. old halls in various parts of the city. In Market Place stands the Old Wellington Inn, last of M.'s old inns. The city possesses some of the finest public buildings in the country, the tn. hall (1877), designed by Albert Waterhouse, being an especially magnificent building, which contains in the large hall mural paintings by Ford Madox Brown and a very fine organ. To meet the needs of local gov. an extension of the tn. hall, designed by E. Vincent Harris, A.R.C.A., was opened by H.M. King George VI. in 1938. Other fine buildings are the Art Gallery, designed by Sir Charles Barry; the Royal Infirmary (1909), the Royal Exchange (1869); Ship Canal House, which houses the chamber of commerce; Midland Bank building; the Central Library, opened by King George V. in 1931; John Rylands Library; and the M. Univ. and Museum. Amongst the notable buildings which were destroyed during enemy air raids were the assize courts (1864), designed by Alfred Waterhouse, and the famous Free Trade Hall, erected from the designs of Walters, in 1856, on the site of the 'Peterloo massacre' (q.v.). Half of the huge floor of the Royal Exchange was destroyed by incendiaries during the same attack, but the remainder was usable after minor repairs. Complete reconstruction commenced in 1947.

Local Government.—Although the finds of coins and pottery and the preserved fragment of the Roman wall show that M. has been inhabited since the Roman invasion, there is very little evidence of its local gov. hist. until comparatively recent times. It is supposed to have been the home of Ina, king of Wessex (689) and is mentioned in Domesday. The first royal charter was granted in 1301, but the tn. remained under the feudal system of manorial gov. until incorporated in 1838, the manorial rights passing from the Groslys to the de la Warres, Westons, and Mosleys successively until purchased by the M. Corporation in 1816. After 1838 progress was rapid. In 1853 M. became a city; in 1893 the title of lord mayor was conferred on its chief citizen, and in 1889 cor. bor. status was granted. To-day the city is divided for local gov. purposes into 36 wards, and the city council is composed of 36 aldermen and 108 councillors. Municipal services include a very good water supply from Longdendale in Derbyshire, and from Lakes Thirlmere and Haweswater in Westmorland; electricity, gas, and markets undertakings; hospitals; airports at Ringway and Barton; libraries, art galleries and museums; parks and cemeteries; highways and transport. The latter service, inaugurated in 1901, is rapidly being converted to motor and trolley buses, which now operate over 350 routes at an average of 75 m. of tram track. M.'s rateable value is £8,401,248 (1946). In 1946 the corporation pub. *The City of Manchester Plan* by R. Nicholas, city surveyor and engineer, setting out his

proposals for replanning the city during the next fifty years. The plan, which is designed to fit into a broad regional scheme covering an area of over 1,000 sq. m., aims 'to enable every inhabitant of this city to enjoy real health of body and health of mind.' Its proposals cover demolition of slum areas and rehousing in neighbourhood units; segregation of industrial areas; improvement of communications; provision of new parks and green belts; a hospital centre based on the existing Royal Infirmary; an educational centre based on the univ.; and the rebuilding and re-using of many of the public buildings in the city centre. The proposals of the plan remain to be examined in detail by the city council and modified as may be necessary before their adoption as official policy.

Trade and Commerce.—Fruit of its hist. M. became a flourishing manufacturing centre, and in 1538 was described by Leland as 'the fairest, best builded and most populous town in all Lancashire'. About the same time Camden, who d. in 1623, said 'Where the Irk runs into the Irwell, on the left-hand bank, and scarce three miles from the Mersey, stands that ancient town called in *Antiquities* according to different copies Mancunium and Mamtunum. Perhaps, as I understand it, it has the best trade of any in these northern parts. The justian manufacture, called Manchester cottons, still continues there'. To-day M. is regarded as the centre of the Lancashire cotton trade and has earned the name of 'Cottonopolis'. But the spinning and weaving are almost entirely carried on in the many surrounding towns of Lancashire and the city is primarily the distributing centre for cotton goods to the whole world. Apart from its mercantile side, M.'s industries are varied and extensive. After cotton engineering and chemicals are the largest industries (in M. was built the empire's largest turbo-electric generator for the Battersea power station), but hats, clothing, waterproof and rubber goods, and electrical equipment are also produced in very large quantities. Owing to its situation near the Ship Canal and docks, Trafford Park, once the estate of the de Trafford, and until fifty years ago a wooded park, has become a world famous industrial estate. M. has one of the most modern dock systems in the world, the estate covering 700 ac., of which 179 ac. are water, and containing eight docks with accommodation for vessels up to 15,000 tons deadweight. The city is also the food distributing centre for one of the most densely populated areas in the world. To facilitate the handling of the vast quantities of goods for which M. is the entrepôt there are cotton, stock, coal, corn and produce, and estate exchanges, and a chamber of commerce, dating from 1794, which now has over 2500 members. Banking and insurance also form an important section of the city's business life, the M. Bankers' Clearing House handling £225,031,518 in 1946 (the area covered being a quarter of a mile radius from the clearing house).

Education and Culture.—The two oldest educational institutions in M. are the M. Grammar School, founded in 1515 by Hugh Oldham, bishop of Exeter, and Chetham's Hospital and Library, estab. by the will of Humphrey Chetham, a M. merchant and benefactor who d. in 1633. The M. Grammar School, although sev. times rebuilt, remained on its original site in Long Millgate until 1931, when the demands of twentieth-century standards necessitated the erection of new buildings in Fallowfield. For four centuries the school has endeavoured to fulfil the aim of the original statutes that 'there shall be no

such branches of learning and science as are usually taught in the English universities.' Owens College was opened in a house in Quay Street in 1851. Growth was rapid, and by 1873 the first of the present buildings, designed by Waterhouse, was in occupation. In 1880 a charter was granted for the institution of the Victoria Univ., with its seat in M. Four years later the colleges of Liverpool (q.v.) and Leeds (q.v.) were admitted and the Federal Univ. continued until 1903, when a new charter was granted and separate univs. were estab. in the three cities. To-day the univ.



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THE CENTRAL LIBRARY, ST. PETER'S SQUARE, MANCHESTER

scholar or infant of what county or shire so ever he be, being manchild, be refused' Chetham's Hospital and Library still occupy the fine old building in Victoria Street which was completed about the year 1425. Inaugurated in 1656, these twin institutions have been administered on the original lines and have been maintained chiefly by the property left by their founder, the buildings being still used in almost unchanged medieval state. The hospital provides, free of cost, maintenance, clothing, and education for twenty boys, who must be legitimate children of respectable parents resident in M. and dist. The library, which was probably the first free public library in Europe, contains upwards of 100,000 vols. and valuable MSS. The univ. of M., situated in Oxford Road, owes its existence principally to John Owens, a M. merchant who d. in 1846 and who left a sum of over £96,000 for the foundation of a college in which instruction would be given 'in

contains nine faculties and the original Owens College is surrounded by additional buildings containing the Whitworth Hall, Christie Library, the M. Museum, and many depts. of learning. M. is well endowed with libraries. There is the John Rylands Library, containing the great Althorp Library (the finest private library ever brought together), and having a total of 400,000 printed books and some 12,000 MSS. (including the famous collection of MSS. found by the earls of Crawford). The Portico Library and Newsroom, founded in 1806 as a social and literary institution, was, until the passing of the Public Libraries Act of 1850, the chief circulating library in M. It contains rare first eds., and, though a private library, is now open to the general public. Finally there is the municipal library service based on the Central Library in St. Peter's Square. M. was the first in the country to take advantage of the powers granted by the Public Libraries Act of

1850; to-day the reference collections contain 389,799 vols.; the Henry Watson Music Library contains 73,236 vols., 20,814 copies of sheet music, and 216,888 part-songs and anthems, and the eighteen dist. libraries have a stock of 639,582 books. There are in M. some fifty societies interested in literature, science, and art. Of these the oldest is the M. Literary and Philosophical Society, founded in 1781, and the oldest prov. society of its kind with a continuous hist. Papers read to the society, pub. as memoirs, are sought by societies all over the world and are entered in the Royal Society's catalogue.

The city possesses no fewer than twenty-two parks, fifty-two recreation grounds, and thirty-five small open spaces with a total area of 2,209 ac. The two largest are Heaton Park, containing Heaton Hall, once the residence of the earls of Wilton, and Wythenshawe Park. Belle Vue zoological and amusement gardens are a noted addition to M.'s recreational facilities. At Heaton Park there are two golf courses. The prin. theatres are the Opera House, Hippodrome, and Palace, supported by two repertory theatres and the Intimate Theatre in the Central Library. The Hallé concerts, first estab. by Sir Charles Hallé, still continue to be given by the Hallé orchestra and have been instrumental in making M. an important musical centre.

History.—During the Civil war M. was besieged by the Royalists under Lord Strange, but the inhab. held out under the command of Col. Rosworm, a Ger. soldier of fortune. In 1689 occurred the trial of those implicated in the 'Lancashire plot,' which ended in the triumphant acquittal of the alleged Jacobites; but that there were in the dist. many warm adherents of the Stuarts was shown in the rising of 1715, when the clergy sided with the Pretender, and again in the rebellion of 1745, when M. was occupied by Prince Charles Edward, and the M. Regiment (q.v.) was raised to defend the Stuarts. In the retreat of the Stuart forces, however, the M. contingent was assigned the task of defending Carlisle, but surrendered to the duke of Cumberland, and their officers were tried for treason and executed. In 1819 M. was the scene of what was known as the Peterloo massacre, which occurred during a period of popular discontent following war and taxation which expressed itself in a demand for political reform. This discontent, instead of being regarded as symptomatic of flaws in the economic, social, and political system, was treated as if it were a crime inspired by the Fr. Revolution, a policy which culminated in the foolish conduct of the authorities in M. in the affair of Peterloo. The crowd having met at St. Peter's Fields to petition Parliament, the yeomanry were called out and many people were killed or injured. After this the M. politicians naturally took a prominent part in the reform agitation, which may be said to have its real impetus from this incident. Since that time M. has always taken an active part in politics

and has been markedly Liberal and progressive in its sympathies, especially in regard to free trade, its economic position giving rise to the name 'M. school' for the extreme *laissez-faire* school.

Among famous Mancunians may be mentioned Humphrey Chetham (q.v. and see above); John Owens (q.v. and see above); Sir Robert Peel (author of the Prime Minister); John Dalton, the great chemist who, though born in Cumberland, lived and worked for many years in M.; James Nasmyth (q.v.); Daniel Adamson; James Brindley (q.v.); Rebecca Gaskell (mother of 'Olivo of India'); Sir Richard Arkwright (q.v.); Lt.-Col. Worsley (the M.P. who, at Cromwell's order, 'took away that bauble' from the House of Commons); David Lloyd George; Richard Cobden; J. P. Joule; and the brother-grant (merchants), the originals of Dickens's Cheeryble brothers. Pop. (1931 census) 766,311; (1946, estimated) 668,660.

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Manchester: 1. Tn. in Hillsborough co., New Hampshire, U.S.A., situated on the I. b. of the Merrimac R., 18 m. S.S.E. of Concord and 59 m. N.W. from Boston. The tn. is built on a plain at the height of 90 ft. above the riv., and is regularly laid out. The prin. street is wide, and is upwards of a mile in length, parallel to the riv. There are four public squares in different parts of the tn., some of which are handsomely ornamented. M. possesses twelve churches belonging to different denominations; and the educational estab. include a high school, two grammar schools, and the M. Institute of Arts and Sciences. M. has risen into importance quite recently by reason of its water power. Not far from the tn. the riv. has a fall of 54 ft. in a mile, which is taken advantage of by means of dams and canals, so that it turns many thousand spindles. There are at M. print-works, paper-mills, machine-shops, foundries, and other estab. M. received its charter in 1846. Pop. 77,700. 2. Tn. of Hartford co., Connecticut, U.S.A., 9 m. E. of Hartford. It has silk, paper, and cotton mills. Pop. 22,000.

'Manchester Guardian,' twopenny daily, estab. 1821, began as a weekly paper. One of the foremost and most polished Liberal organs of the day, it is not only the leading Liberal organ in the provs., but enjoys an international reputation second only to that of *The Times*. Long before the early eighties it had a circulation not only throughout the cotton and woollen manufacturing dists., but in nearly every mkt. in En. and vil. in the N. of England. As long ago as the early seventies its profits were estimated at £30,000 a year; it possessed a foreign service, a staff of special and ordinary correspondents, a corps of parl. reporters, and was (and still is) characterised by a generally distinguished tone which made it the equal, if not in some respects the superior, of the leading London dailies of that time. Early in its hist. its columns were notable for the anti-corn law articles of Cobden. It preserves a consistently high tone in dramatic and literary criticism and has always preserved a strictly neutral attitude in regard to religious matters. Among notable writers of the V. G. have been Andrew Lang, Richard Whiting, Laurence Housman, and L. T. Holthouse, and it owes much to the editorship of C. P. Scott, from 1872 to 1929. Noted members of its staff have been C. E. Montague, Allan Monkhouse, Samuel Langford, and Neville Cardus. See also Scott, C. P. See W. H. Mills, *The Manchester Guardian: a Century of History*, 1921; N. Cardus, *Autobiography*, 1917; and (by sev. contributors) *The Making of the Manchester Guardian*, 1947.

Manchester Regiment. The 1st Battalion was originally the 63rd Foot formed in 1756 and the 2nd was the 96th Foot raised after the Napoleonic wars. One of the chief campaigns in the hist. of the regiment was in Egypt, whence their badge of the Sphinx; other campaigns were the Amer. War of Independence the Crimean war, and the S. African war, where they were prominent at Elands Laagte and at Ladysmith. The 2nd Battalion was with the original B.L.F. in the First World War and fought at Le Cateau. Many territorial units took part in the Gallipoli campaign, 1915, 1916 in heavy fighting at Sari Bair and Achi Baba. In 1916 at the battle of the Somme city and other service battalions fought at Montauban and Guillemont. The 1st Battalion was with the Kut (g.e.) relief force and took part in the severe fighting at the Hanaiah redoubt. In 1917 various units were in the Ypres battles, notably at Passchendaele, and at Neuville Vitasse, in the battle of Arras, while in the final Ger. offensive of 1918 other units fought at Houthulst and Zonnebeke in Flanders. In the allied advance to victory their chief engagement was the battle of the Selle. In the Second World War the 2nd Battalion went to France with the 1st Corps; the 5th, 8th, and 9th (Territorial) Battalions were in France soon afterwards as part of the 42nd Div. All these units fought at Dunkirk excepting the 8th Battalion, which was sent first to Malta,

then to Palestine, and finally to the It. front. After a short tour of duty in Iceland the 9th was, in part, transferred to the Royal Artillery as the 88th Anti-Tank Regiment, while the 5th became the 111th Regiment, Royal Armoured Corps. The 1st Battalion fought in the doomed rearguard action down the Malaya Peninsula to Singapore, where the survivors were captured. The 6th Battalion was then renumbered as the 1st, and with the 7th fought at Caen, Falaise, the Seine, Nijmegen, and the Rhine. The 2nd went to India and thence to the Burma front, being among the first infantry to cross the Irrawaddy. The 9th fought, later, in Italy.

Manchester Ship Canal. This canal was opened by Queen Victoria in May 1894. Up to that time there had been large navigation between Liverpool and M. along the Rts. Mersey and Irwell, and the Bridgewater Canal was extended to Runcorn in 1722. The first plan for a direct waterway between the two cities was made in 1825 by W. Chapman, and in 1840 another was designed by H. Palmer, but it was not until 1882 that a Bill was brought before Parliament in which the design of Sir E. Leader Williams for a canal with locks was adopted. Owing to opposition the Bill did not pass until 1885, and it was not until two years later that work was begun. The length of the canal is 35 m. It begins at Eastham on the Cheshire side of the Mersey and runs to Runcorn near or through the Mersey estuary; it then goes inland to Latchford, near Warrington, where tidal action ceases, and from there to M. it is fed by the waters of the Mersey and Irwell. M. port has eight docks, the largest being 2700 ft. by 250 ft.; but a still larger is being built. A new oil dock is being built near Eastham, at a cost of £4,000,000, in connection with a new refinery at Stanlow. There are three entrance locks which keep the water level nearly to mean high-water level. The original depth of the canal was 26 ft., but it has since been made 2 ft. deep. In 1927 that section of the canal between Eastham locks and the Gowy R. was deepened to 30 ft.; as also was the approach channel to Eastham. At the narrowest part it is 120 ft. wide, so that it is possible for large vessels to pass one another. The greatest width of the locks is 65 ft., excepting the entrance lock, which is 80 ft. The canal is a splendid engineering feat. At Barton the Bridge-water Canal crosses the R. Irwell on a swing aqueduct, the first of the kind constructed in England. This aqueduct is made of steel and worked by hydraulic power. The canal is crossed by five lines of railways, carried by high-level viaducts. There are also nine swing bridges for main roads, while underneath the canal great syphons are constructed to enable the R. Gowy to continue its course uninterrupted. At intervals along the whole length of the canal there are wharves and works of all kinds, as at Runcorn and Weston Point, and at M. the docks cover an area of 170 ac. (water space), with over 6 m. of quay walls and 290 ac. of wharf space.

The immense advantage it has been to trade throughout Lancashire and the surrounding dist. has more than justified the tremendous outlay of £19,000,000, the canal being in direct communication with all the prin. railway systems and barge canals of the United Kingdom. The issued capital of the M. S. C. Company is about £19,500,000. The gross revenue (including the Bridgewater and the railways) averages nearly £2,000,000, and the net revenue about £700,000. Traffic receipts in 1944 amounted to £1,155,000, tonnage figures being over 6,000,000. The headquarters of the Canal Company are at Ship Canal House, which was opened in 1927. See B. Leitch, *History of the Manchester Ship Canal*, 1907, and A. Williams, *Romance of Modern Lingerie*, 1925.

Manchester Terrier, breed of terrier including a normal and a toy breed. It is more generally known as the black and tan terrier (*a.r.*), and the pure breed was produced through the efforts of a group of fanciers living in or about M.

Manchukuo, see MANCHURIA.

Manchuria, country in the E. of Asia, lying between China and Mongolia on the W. and S.W., and Korea and Siberia on the E. and N. M. extends between 39° 40' and 53° 50' N. lat. and 115° 20' and 135° 20' E. long. The R. Amur forms the boundary on the N. Prior to 1930 M. was divided into three provs., N. M., or Heilungkiang, Central M., or Kirin, and S. M., or Shengyang or Fengtien. Great changes took place after the Jap. invasion of M. (1930). The original provs. were reorganised into ten new administrative provs. (1935) as follows: Kirin (pop. 6,981,000), Lungkiang (2,614,000), Heiho (52,000), Sinkiang (4,500,000), Pinking (4,190,000), Chentao (97,000), Antung (3,164,000), Fengtien (9,197,000), Chinchow (3,234,000), Jehol (6,110,000). In 1937 two more provs. were created, Tunghua and Nulankiang, thus making twelve provs. in all. There were also the Mongol provs. of Hsingan, divided into four dists. (with a total pop. of 1,090,000) the Hainan special municipality (pop. 328,000), and the Harbin special municipality (760,000). The total area is estimated at 503,000 sq. m. and the pop. at 35,000,000 (excluding Kwangtung leased ter. and the S. Manchuria railway zone). The N. and E. part of the country is very mountainous, the remainder being a plain which stretches to the gulf of Liaoyuan. The mts. S. E. of Kirin rise to a height of 3000 ft. The prin. rivers of central M. are the Sungari, Mutankiang, and Ussuri; they are all navigable by native junks, and the city of Kirin on the Sungari can be reached by steamer. The Nen and its tribs. water Heilungkiang, and the Liaohe empties into the gulf of Liaoyuan. Hsingan (Changchun) is the cap. Kirin, Mukden, and Harbin are imperial cities. The chief commercial centre and port is Yingkow (Newchang), at the head of the gulf of Liaoyuan. Harbin is a most important tn.; other tns. are Liaoyuan, Tannan, Tsitsihar, Tieling, and Antung. The country is well supplied

with railways, the prin. being the S. Manchurian railway and the Chinese E. The mineral wealth, but partly explored, is great; coal and iron-mines are extensively worked and the yield of precious stones is valuable. Oil is found in the S., and gold is mined in the E. and N., silver, copper and lead are also found, but M. is first and foremost in agric. country. Its soil is extraordinarily rich. Soyabans are the chief crop, next in value are wheat, millet, and rice. Tobacco, beet, indigo, opium and flax are also grown. The raw silk obtained in the S. is woven into tussore for export. The climate is extreme, ranging from 90° F. in summer to 10° below zero in winter. The wild animals are numerous: bears, wild boars, wolves, tigers, and panthers abound. The fish are salmon and sturgeon; the sea-fisheries also are valuable. The country was originally inhabited by the Manchus, and the first appearance of these people in China dates from the beginning of the tenth century. For their relations with China see CHINA.

There is no longer a Manchurian pop., owing largely to Chinese immigration. During the Boxer outbreak (1900) the Russians occupied the country. A convention was arranged (1902) between China and Russia, and the latter agreed to evacuate the prov. Failing to keep their part of the agreement, war was declared between Russia and Japan, the result being that at the conclusion of peace (1905) Japan handed over M. to China. A definite agreement defining spheres of influence and preserving the open door was signed between Russia and Japan in 1909. Japan began an aggressive action on the ground that Jap. rights in the Manchurian railway zone had been violated. In a brief space of time Jap. troops had overrun the whole country. Mukden was occupied on Sept. 18, 1911. A series of military operations continued and on Feb. 19, 1932, the three N. J. provs. of China, i.e. Kirin, and Heilungkiang, together with Jehol, were proclaimed an independent state under the name of Manchukuo with the cap. at Changchun which was renamed Hsinking. Japan formally recognised Manchukuo, while a *modus vivendi* was struck with Russia. The League of Nations sent a commission of inquiry, under Lord Lytton, to investigate the formation of what was regarded in Europe as merely a puppet state of Japan. Under the Nine Power Treaty of 1922, of which Japan was a signatory, both Chinese sovereignty over M. and the policy of the open door for international trade were guaranteed; but these treaty obligations were held lightly by Japan in view of her investments in M. and her outlook on the economic hinterland of M. as a vital factor in her commercial interests. The Lytton Commission suggested the creation of a special regime in M. which should maintain the sovereign states of China while safeguarding Jap. rights. But the Jap. Gov., whose aggression in M. had been unanimously condemned by the League, rejected the Lytton proposals, resigned from the League, and set up the

new state of 'Manchukuo.' Soon afterwards nations of a Fascist character—Germany, Italy, and Hungary—recognised this new state. The Organic Law or Constitution of 1932 provided for a chief executive, a Privy Council, and a Cabinet. In the following year Mr. Henry Pu was made chief executive and hereditary emperor ('Huangti') of Manchukuo and he was crowned on March 1, 1934, as the Emperor Kang Teh. There was fierce fighting between Jap. and Russian forces in Sept. 1939 in the Nomonhan region over the problem of the Manchurian-Mongolian frontier, the delimitation of which was not finally settled until Aug. 1941. The whole situation in the puppet state of Manchukuo was changed in the Second World War. M. was invaded towards the closing days of the war by Russian forces, and within a fortnight the country was occupied by Soviet and Amer. troops (see under PACIFIC CAMPAIGN or FAR EASTERN FRONT IN SECOND WORLD WAR).

M. has decayed seriously from the time when, as a more or less independent political and economic unit under Chang Tso-lin and later under the puppet emperor P'u Yi, its economy was controlled by the Jap. This is due to the Russian and Communist occupations and consequent looting of machinery and factories and the civil war. The only reminders of the former Jap. economic hold on the country are the railway lines and the excellent highways they built, and the many fine buildings erected by them in the larger towns. In trade, industry, and agriculture the Jap., doubtless for their own immediate benefit, had established up-to-date research stations and experimental farms, but most of these have been wrecked or allowed to fall into neglect. Although M. was not the scene of any serious fighting in the Second World War, it suffered, in some ways, heavier damage than any other part of China. For the Russians took away part of the rolling stock and stripped the factories and industrial plants of their heavy machinery; and before the departure of the Russians and the arrival of the Chinese Nationalist forces there was still further looting and destruction of property. This spoliation by the Russians and the Chinese themselves has dealt the industry of M. a severe blow, though it does not account altogether for the great decline from the old-time prosperity. After the surrender of Japan the Chinese Gov. regained the splendidly developed rail and road systems of M., together with numerous large airfields, the hydro electric plant near Kirin, the Fushan coal-mines, and thousands of modern buildings and other valuable properties, most of this being in effect a form of reparations, for none of it had cost the Chinese Gov. a cent. If the country could have remained an independent economic unit it might have escaped the economic chaos prevailing (1947) in the rest of China; for it has a vast production of wheat and other cereals, of timber and soya-beans, in addition to its coal and iron. But all problems in M.

were overshadowed by the civil war, which began after the Jap. expulsion from China. See further under CHINA, Nanking Government loses Manchuria and North China to the Communists.

See A. Hosio, *Manchuria*, 1901; Sir H. Parlett, *A Brief Account of Diplomatic Events in Manchuria*, 1929; O. Latimore, *Manchuria: Cradle of Conflict*, 1932, *The Mongols of Manchuria*, 1935, and *Inner Asian Frontiers of China*, 1940; E. B. Price, *The Russo-Japanese Treaties of 1907-16 concerning Manchuria and Mongolia*, 1933; J. Matsui, *La Question de la Manchourie et son indépendance*, 1933; K. K. Kawakami, *Manchoukuo: Child of Conflict*, 1933; D. M. B. Collier and C. L. Malone, *Manchoukuo: Jewel of Asia*, 1936; P. Wou, *La Verté sur la Manchourie*, 1936; J. Bertram, *North China Front*, 1939; G. Kochler-Hauke, *Manchoukuo*, 1941; and F. C. Jones, *Manchuria since 1901*, 1948.

Mancini, Pasquale Stanislas (1817-88), lt. lawyer and statesman, b. near Ariano. He soon became a prominent publicist, and in 1848 participated in the Neapolitan movements, after which he retired to Turin and practised as an advocate, being appointed prof. of international law at the univ. there. In 1861 he became minister of public instruction for a short period. From 1881 to 1883 he was minister of foreign affairs. He pub. *Prelazioni di Diritto Internazionale* (1848). Mancinus, C. Hostilius, Rom. consul, 137 B.C. was defeated by the Numantines, and purchased his safety by making a peace with them. The senate refused to recognise it, and delivered him over to the enemy, who refused to accept him.

Manicumium, see MANCHESTER.

Mandaean (Manda-gnosis), E. religious sect, now very few in numbers, residing on the E. shores of the Tigris, and having a religion derived from the N.T. but tainted with Jewish and Parsic elements. They were called 'Christians of St. John' because they venerated John the Baptist, while they call themselves 'Sabba' or Baptists, and are therefore regarded by the Muslims as the Sabaeans of the Koran. Their religious books are *Sutra rabba* (Great Book), *Sutra d'Yahud* (Book of John), *Nolala* (hymn concerning baptism and the ascension of the soul after death), *Drwila* (a ritual), and *Asfar Mauidal* (an astrology). See S. A. Pallis, *Essay on Mandaean Bibliography*, 1933, and E. S. Drower, *The Mandaeans of Iraq and Iran*, 1937.

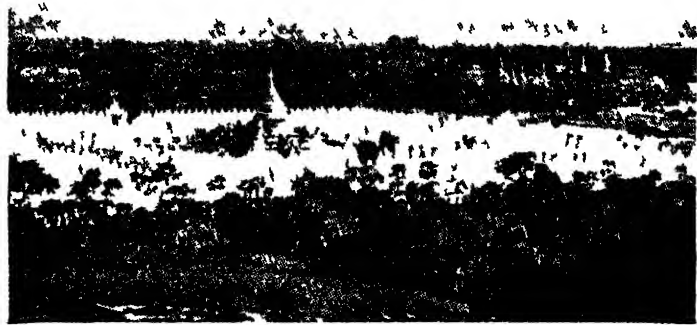
Mandalay, tn. of Upper Burma, on the Irrawaddy, above Amarapura and Ava, about 386 m. N. of Rangoon. It formed the last cap. (1860) of the kingdom of Burma. Before the Second World War the walled city was the military cantonment of the Brit. (Fort Dufferin). Before the Jap. attacks of 1942 there were many temples, pagodas, and monasteries. Silk-weaving was carried on extensively. The land is fertile and, irrigated by canals, is capable of producing two crops a year. M. is a riv. port. It has an intermediate College, an Agric. College, and research institute. Pop. (mostly Buddhists),

163 000 M dist has an area of 2120 sq m. Pop 409 000. M div has an area of 32 476 sq m, and contains the dists of M Kwankse, Myingyan and Meikilla etc.

M was savagely bombed by Jap planes on April 3 1942. The bombs destroyed two thirds of the downtown business area and killed between 2000 and 3000 people. Bombed again on April 25 the city was more or less devastated. M was evacuated by the Allies and occupied on May 1 by the Jap who found all military installations roads and bridges etc wrecked or damaged by air raids. On Jan 11 1943 M had its heaviest air raid this time by the Allies

and determine applications for renewals of licences.

Mandarin, general name under the empire for a Chinese magistrate or public official civil or military. The civil Ms chosen from the men of letters or scholars from every part of the country, were divided into nine degrees each consisting of two classes the highest of which were ministers of state councillors of the emperor and presidents of the supreme court. Each order was distinguished by the button worn on the top of the cap while the highest grade also wore a peacock feather at the back of the cap not as a sign of office or rank but as a reward for peculiar merit. The buttons



THE PAGODA OF ROYAL MERIT AND 450 PAGODAS OF THE LAW AT MANDALAY

See also under BURMA, SECOND WORLD WAR CAMPAIGNS IN. See V C S O'Connor *Mandalay* 1907 and F L Jero *Modern Burma* 1912.

Mandamus The prin application of the prerogative writ of M fr in the high court is in calling upon justices of the peace to show cause why they should not exercise their jurisdiction in a particular case and generally speaking the object of the writ is to enforce the performance of some duty or to test the legality of the performance by the inferior court of some duty of a public nature in respect of which there exists no other available and adequate legal remedy. But in theory it is a royal command which may be directed to any person, corporation or inferior court (q.v.) within the king's dominions requiring them to do something appertaining to their office and duty in accordance with right and justice. Illustrations of its application M to a mayor and corporation to counsel them to receive and count votes, to justices at Brewster Sessions to compel them to hear

of the higher officers were made of coloured coral the lower of glass and the lowest of gilt metal.

Mandarin Duck, or Chinese Pheasant (*Asiatic galea*) very small ornamental water fowl. The drakes head has a long erectile crest green purple and chestnut in colour and a curious fan or sail. The duck and drake are an extraordinarily devoted pair.

Mandarin Orange, fruit with reddish rind and dark red pulp borne by *Citrus nobilis* the Noble orange which according to Sir J Hooker is a variety of *C. aurantium*.

Mandate System system of government evolved under the treaty of Versailles after the first World War, for the expropriated Ger colonies and outlying portions of the Turkish Empire. The principle of the M S, which was embodied in the covenant of the League of Nations (q.v.) was a novel one in international law (q.v.). There is no essential difference in the M as it exists to-day under the United Nations Organisation from what it

was under the covenant (*see* COLONIAL TRUSTESHIP). It places the mandated ter. under the tutelage of the mandatory, this relationship being founded on the hypothesis that the inhab. of the mandated ter. are not sufficiently advanced to safeguard their own interests; the mandatory nation may not exploit the mandated ter. in its own interests, but exercises the mandate as a 'sacred trust of civilisation on behalf of the United Nations. Mandates were classified as A, B, and C mandates, depending on such circumstances as the stage of development of the inhab., geographical position, and economic conditions. Class A consisted of ters. that previously formed part of the Turkish Asiatic empire (Mesopotamia, Syria, and Palestine) which were sufficiently advanced to obtain a provisional recognition of independence (*see* IRAQ; PALESTINE; SYRIA). These mandates were held by Great Britain and France. Class B comprised ters. such as Ger. E. Africa, the Cameroons, and Togoland, the races of which are deemed to be at such a stage that the mandatory must (1) be responsible for the administration under conditions which would guarantee freedom of conscience and religion, subject only to the maintenance of public order and morals, the prohibition of traffic in slaves, arms, and liquor, and the prevention of the estab. of fortifications or military or naval bases, etc., for other than police purposes or the defence of the mandated ter., and (2) would secure equal opportunities for the trade of all members of the League. These B mandates were held by Great Britain, France, and Belgium (*see* CAMEROONS; TANGANYIKA TERRITORY; TOGO-LAND). In Class C were ters. such as Ger. S.W. Africa and various Pacific Is., which, by reason of remoteness, sparseness of pop., or geographical contiguity to the ter. of the mandatory, were considered best administered under the laws of the mandatory as integral parts of its own ters., 'subject to safeguards in the interests of the indigenous population.' Ger. S.W. Africa was mandated to the Union of S. Africa. After the rejection of his request to the United Nations in 1947 for incorporation of S.W. Africa as a fifth prov. of the union of S. Africa, Gen. Smuts pledged himself to give the ter. representation in the S. African Parliament while maintaining a form of mandate.) All the Ger. possessions in the Pacific S. of the equator, excepting Nauru and Samoa were mandated to Australia; Samoa to New Zealand; Nauru to Great Britain; and all Pacific possessions N. of the equator to Japan. The mandatory had to report annually on each mandated ter. to the League Council and the Permanent Mandates Commission of the League advised the League on all matters relating to the observance of the mandate. Under Chapters xi., xii., and xiii. of the charter of the United Nations (International Trusteeship System) mandates undertake to transmit regularly to the secretary-general of the United Nations, information relating to the economic, social, and educational conditions

of the ters. for which they are responsible. Approval of the M. S. has not been unanimous, it being sometimes objected that it is but disguised annexation. It is certainly true that allocation of mandates was exercised by the Allies of the First World War only in favour of allied powers, and that the control of the mandates commission was not very apparent. But it is evidence of a distinct advance in public opinion that outright annexation was and is discountenanced, and the fact that the League was the ultimate authority was some guarantee of the equitableness of a system which is perpetuated in the trusteeship system of the charter of the United Nations. In Sept. 1931 the council of the League of Nations approved the general conditions laid down by the Permanent Mandates Commission as necessary to be fulfilled before the mandate could be ended. The conditions laid down were that the mandated ter. must (a) have a settled gov. and an administration capable of maintaining its regular operation of essential gov. services; (b) be capable of maintaining its territorial integrity and political independence; (c) be able to maintain public peace throughout the whole area; (d) have at its disposal adequate financial resources to provide regularly for normal gov. requirements; and (e) possess laws and a judicial organisation which will afford equal and regular justice to all. These conditions were deemed to be fulfilled in the case of Iraq, which, accordingly, became an independent state (*see* IRAQ).

Some students of our colonial problems have suggested a solution in the extension of the M. S. to all colonies which have not attained full self-government. This, however, would involve the abandonment of complete territorial sovereignty and the better policy would seem to be an advance towards a greater degree of economic equality and social amelioration. For B mandates provide in theory for identical personal rights for nationals of all member states of the League or, as now, member-states of the United Nations, and for complete economic, commercial, and industrial equality (with some reservation for the organisation of essential public works and services and of monopolies—and the mandatory is free to organise public works on such lines as he thinks just). The A mandates contain similar provisions, inserted to meet the wishes of the League and of the U.S.A. But there are no provisions in C mandates for equality of opportunity for foreigners, though, in practice, the anomaly of the position in these mandates has to some extent been recognised. In the Brit. Cameroons practically all the plantation capital was in Ger. hands and 80 per cent of the exports went to Germany before the Second World War. In settlement there is not much serious discrimination, except in New Guinea, where Australian laws, practically excluding Jap., applied and still apply. The major consideration affecting economic equality was the pledge of the 'open door' for imports from

member states of the League. Trade statistics for mandated territories show marked differences, but on the whole the open door was well maintained except in the countries under O mandate, in which it was not prescribed. The extension of the M. S. to all non self-governing colonies is the main proposal of the advisory committee to the Labour party in Great Britain (see C. R. Buxton, *The Alternative to War*, 1936). The Brit. Gov., however, through Mr. (later Earl) Baldwin, expressed the view that the application of the M. S. to the Brit. colonial empire would not be welcomed by the inhab. of the dependencies themselves, who were proud of their status as Brit. subjects and would have resented being placed in a different category from other members of the Brit. Empire; and, again, that the authority of Parliament and of the local legislatures over these dependencies would have been prejudiced; and, finally, that so extended a scheme would have meant the abandonment of the existing machinery of a Permanent Mandates Commission composed of distinguished experts and its replacement by a kind of international colonial office. The question of extending the M. S. to other areas in the administrative sense is of less importance than the extension of its principles. Within ten years of the treaty of Versailles the M. S. had resulted in wider recognition of the principle of trusteeship, that dependencies should be administered in the interests of their inhab.; in the principle of tutelage, that the cultivation of a capacity for self-government is such an interest; of the principle of international mandate, that states are responsible to the international community for the exercise of power over backward peoples, even if that responsibility is not fully organised. The M. S. under the League embraced typical areas, and if more had been added the Permanent Mandates Commission's administrative duties might well have obscured its scientific and investigatory functions. Nevertheless the advantages of the League's supervision in the event of a future political exigency, suggesting a change in the status of a dependency, were considered in the formulation of the international trusteeship system of the United Nations Charter; for the 'trust territories,' as defined in the charter, include not only territories now held under mandate, but 'territories which may be detached from enemy states as a result of the Second World War.' But the major work of the Trusteeship Council of the United Nations, as was that of the Permanent Mandates Commission of the League, is to focus attention on the problem of native welfare and economic development, to co-ordinate investigations and experiments towards its solution, and to see that mandated areas are administered in the interests of the natives and the world according to the best learning and experience in the world, thus setting examples for the administration of backward areas everywhere.

See E. van Maanen-Helmer, *The Mandates System in relation to Africa and*

the Pacific Islands, 1929; B. Gerig, *The Open Door and the Mandates System*, 1929; Q. Wright, *Mandates under the League of Nations*, 1930; N. Bentwich, *The Mandates System*, 1930; A. M. Margalith, *The International Mandates*, 1930; Royal Institute of International Affairs, *The Colonial Problem*, 1937; Charlotte Leubuscher, *Tanganyika Territory—Study of Economic Policy under Mandate*, 1944; H. Duncan Hall, *Studies in the Administration of International Law and Organisation and The League Mandate System and the Problem of Dependencies* (Carnegie Endowment for International Peace, Div. of International Law, Washington), 1915; Lord Hailcy, 'Colonial Trusteeship' (*The Times*, Oct. 3, 1945), and *The Mandates System—Origin, Principles, Application*: series of League of Nations pub. vi. A. *Mandates (Geneva)*, 1945; *Trusteeship Territories in Africa under United Kingdom Mandate* (Cmd. 6840), 1946, revised texts, Cmd. 6935, 1946; *Trusteeship: Togoland and Cameroons under United Kingdom Mandate* (Cmd. 6863), 1946.

Mande-nga, see MANDINGONGA.

Mandesur, see MANDSAUR.

Mandeville, Bernard de (1670-1733), Eng. philosopher and satirist, b. at Dordrecht, where his father was a physician. He was educated at the Erasmus School, Rotterdam, and at Leyden Univ. In 1691 he took his medical degree and came to England, but did not practise widely. His fame rests on his *Fable of the Bees*, or *Private Vices, Public Benefits*, which appeared first in 1705, and later eds. in 1714 and 1723. It was primarily written as a political satire on the state of England in 1705, when Marlborough's ministry was accused by the Tories of advocating the Fr. war for personal reasons. He also wrote *Free Thoughts on Religion, the Church, and National Happiness* (1720); *An Enquiry into the Origin of Honour* (1732); *The Planter's Charity* (1704), etc. See J. M. Robertson, *Pioneer Humanists*, 1907; F. B. Kaye, *The Writings of Bernard Mandeville*, 1921; and P. B. Anderson, *Splendor out of Scandal*, 1936.

Mandeville, Sir John, was the ostensible author of a book of travels bearing his name, written about the middle of the fourteenth century, giving an account of journeys in the E., including India and the Holy Land. It appears to have been compiled from the writings of Wm. of Boldensele, Odoric of Pordenone, and Vincent de Beauvais. The name of M. was probably fictitious. Wynken de Worde's ed. of *Sir John Mandeville's Travels* (1499) was remarkable for its illustrations, of which it contained a set 'not less wonderful than the adventures they portray.' See P. Hamelius, *Mandeville's Travels* (Early Eng. Text Society), 1919, and H. Plomer, *Wynken de Worde and his Contemporaries* (London), 1925.

Mandi, state of Himachal Pradesh in N.E. Punjab, India, on the S. slope of the Himalayas. The tn. is on the Beas, 45 m. N.W. of Simla. Timber, rice, pulse, and wheat are produced. In 1932 a hydro-electric plant was opened. Area 1200

sq. m. Pop. 232,600. See the *Mandi Slate Gazetteer*, 1908.

Mandible (Lat. *mandibulum*, the jaw), name applied in anatomy and zoology to the jawbone. In birds it signifies both upper and lower jaws, together with their horny integument, although the terms *maxilla* and *mandibula* are sometimes used to refer respectively to the upper and lower parts. In mammals the term only applies to the under jaw. In insects it applies to the anterior, upper, or outer pairs of jaws.

Mandingoes, Mandingos, Mandingans, Mande-nga, or Mandina, names of an important div. of Sudanese Negro peoples of W. Africa, especially in Senegambia, between the headwaters of the Niger and the Senegal. Among the chief tribes and dialects are the Soni-nka, the Swainiki people of Azor and the S.W. Sahara, the Malinke, and the Bamana (incorrectly called Bambara). Smaller tribes are the Kabunga, the Taronka, and the Jalunka (the suffix *nga, nke, or nka* means 'people'). They are highly intelligent, were early leather- and metal-workers, traders, and herdsmen, and are marked by a passionate love of music. The majority represent a mixture of Negro, Berber, and Arab elements. The Mandi speech is very widely diffused, and largely employed by translators. The empire of Mello (Mali) was founded by their ancestors under Musa (1311-31). They were conquered by the Songhai (Songhai) about 1500. They are zealous Muslims estimated at over 10,000,000 in number. See L. Binger, *Du Niger au golfe de Guinée*, 1892; F. Lugard, *A Tropical Dependency*, 1905; H. Johnston, *Liberia*, 1906; and L. Marc, *Le Pays Mossi*, 1909.

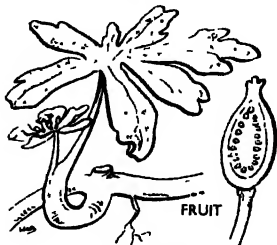
Mandla, dist. and tn. of the Central Provs., India. The tn. (cap.) is on the Narbada, 50 m. S.E. of Jabalpur. Area (dist.) 5115 sq. m. Pop. (dist.) 504,600; (tn.) 11,700.

Mandogari, or Mandu, deserted tn. of Dhar state, India, stretching for 8 m. along the crest of the Vindhya, 35 m. from Indore. It was the cap. of the ant. Muslim kingdom of Malwa, and has ruins of a fine mosque of Pathan architecture. See F. B. Campbell, *Gazetteer of Bombay* (part II, vol. 1.), 1896.

Mandoline, stringed musical instrument of the lute family (treble member), but with deeper convexity of back. It is of lt. origin, but is now common in most civilised lands. The two chief varieties are the Neapolitan (with four pairs of metallic strings) and the Milanese (with five pairs). It is played with a plectrum or quill of tortoiseshell, whalebone, or some pliable substance, held in the right hand. The finger-board, or neck, has many frets across. See Sir G. Grove, *Dictionary of Music*, vol. III., 3rd ed. 1927, and P. J. Bone, *The Guitar and Mandoline*, 1914.

Mandrake, or Mandragora, small genus of perennial plants of the family Solanaceae, of exceptional legendary interest. They are stemless plants, with thick tap roots and dark-green wrinkled leaves.

M. autumnalis bears pale purple flowers in Sept., and *M. officinalis*, white or blue flowers in May, followed by yellow, globose fruit. Both have been supposed to be the *M. of Genesis*, and the plants were and still are credited with many miraculous properties.



MANDRAKE

Mandrill, large W. African baboon. Its immense canine teeth, large blood-red ischial callosities, and huge, naked, gaudily striped cheeks render it one of the most hideous creatures in nature. It is insectivorous.

Mandsaur, or Mandesur, tn. of Gwalior state, Madhya-Bharat, India, on a trib. of the Chambal, 106 m. N.W. of Indore. A treaty was signed here (1818) ending the Maratha-Pindari war. There is trade in opium. Pop. 30,000.

Manduo, see MANDOUARI.

Manduria, tn. of Lecce prov., S. Italy, 22 m. S.E. of Taranto. Piny de-criber its anct. well. Olives, fruit, grain, and wine are produced. Pop. (with Ugento Montefusco), 14,000.

Mandvi: 1. Seaport of Cutch, India, on the gulf of Cutch. Pop. 25,000. 2. tn. of Bombay Prov., India, on the Tapi, 30 m. from Surat. Pop. 2000.

Manes, or Di Manes ('the good gods'), in Rom. mythology the disembodied and immortal spirits of the dead, a. applied somewhat indeminently to the powers of the lower world. They were regarded as gods, and only propitiated by offerings, especially at certain festivals (Parentalia and Feralia). Cf. LARÆ and PENATES. See Ovid, *Fasts*, II., 535, 617, 642; Cicero, *De Legibus*, II. 9, 22; G. Wissowa, *Religion und Kultus der Römer*, 1902.

Manet, Edouard (1832-83), Fr. realistic genre and portrait painter, regarded as the founder of Impressionism. He was sent on a voyage to Rio de Janeiro (1848), but persisted in taking up an artist's career, and became a pupil of Couture and Courbet. He travelled widely in Europe and devoted much time to studying the Sp. masters in the Louvre. He became head of the Ecole des Batignolles (1863). His works were severely criticised and often rejected by the Salon. They include 'Buveur d'absinthe' (c. 1860), 'Olympia' (1865), 'The Garden' (1870), 'Enfant à l'épée', 'Bon Bock' (1873), first of the *plein air* paintings, and portraits of Zola, M. A. Broust, and Rochefort (1881). See

monographs by Zola (1867), Bazire (1884), Durat (1902), von Tschudi (1902), J. Meier-Graef (1912); J. E. Blanche (Eng. trans.), 1925; A. Proust, 1929; and P. Pélard, 1945; also P. Courthion (ed.), *Manet raconte par lui-même et par ses amis*, 1945.

Manetho, Egyptian priest and historian. He lived during the reign of Ptolemy II. (Philadelphus), and was probably a native of Sebennytus in the Delta. He wrote on the hist. and theology of anc. Egypt, his greatest work being the hist. of Egypt written in Gk. Only fragments have come down to us, saved by Josephus, and the tables of dynasties of the kings divided into three books. The Christian chronographers have kept for us a great deal of his work, though many of them differ and are untrustworthy. Julius Africanus, Eusebius, and Georgius Syncellus have all handed down quotations, and references that are valuable. The fragments of M.'s work have formed the accepted foundation for the present scheme of the Egyptian dynasties with their allotted periods. See A. Wiedemann, *Aegyptische Geschichte*, 1881.

Manfred (1231-66), king of Sicily and natural son of the Emperor Frederick II., on whose death he acted as regent in Italy, during the minority of his nephew, Conradin. In 1258, on a rumour of the death of the latter, he was proclaimed king of the Two Sicilies and crowned at Palermo. He was thereupon excommunicated by the pope, but marched into the papal ter., and was acknowledged master of Tuscany. Later, however, Pope Urban IV. re-excommunicated him, and bestowed his kingdom on Charles I. of Anjou, and finally he was defeated and killed at Benevento. M.'s government was beneficial to the country; he estab. schools in all the large cities, founded Manfredonia, and built the harbour of Salerno. See K. Hampe, *Urban IV. and Manfred*, 1261-64, 1905, and W. Cohn, *Das Zeitalter der Hohenstaufen in Sizilien*, 1925.

Manfredonia, tn. of Foggia Prov., Italy, on the gulf of M., an inlet of the Adriatic, 22 m. N.E. of Foggia. It was founded by Manfred of Sicily in 1263, 2 m. E. of the anc. Sipontum. The Turks pillaged it in 1620. Figs, almonds, and carobs are exported. There are salt lagoons near. Pop. 15,000.

Mangaldan, tn. of Pangasinan Prov., Luzon, Philippine Is., near S. shore of the gulf of Lingayen. It is connected by a high road with Dagupan. Pop. 18,997.

Mangalore, or **Mangaluru**, seaport of Madras, India, cap. of S. Kanara dist. on the Malabar coast, 125 m. N.N.W. of Calicut. Coor. coffee, and pepper are exported. It has a gov. college and a Jesuit college of St. Aloysius (both connected with Madras Univ.). Weaving, printing, and shipbuilding are among its industries. It was sacked by the Portuguese three times in the sixteenth century, bravely resisted Tippu Sahib's army, 1782-83, and finally became Brit. in 1799. Pop. 81,000.

Mangan, James (Clarence) (1803-49), Irish poet, wrote for the *Nation* (founded

1842), and contributed to many Irish newspapers under various pseudonyms. *Anthologia Germanica* (1845) and *Romances and Ballads of Ireland* (1850) were among his chief works. See D. J. O'Donoghue, *Life and Writings of Mangan*, 1897, and his eds. of *Poems*, 1903, and *Prose Writings*, 1904.

Manganese, symbol Mn, atomic number 25, atomic weight 54.95, suspected to be present by Scheele (1774) in pyrolusite, and isolated by Ghan. It occurs as the dioxide (MnO_2) in pyrolusite, as the sesquioxide (Mn_2O_3) in braunite, as the tetroxide (Mn_3O_4) in hausmannite, and as the carbonate ($MnCO_3$) in association with iron carbonates in iron ores. The metal is somewhat difficult to reduce; it is prepared by mixing the oxide or the carbonate with charcoal and subjecting the mixture to a high temp. or (see GOLD-SCHMIDT METHOD) by mixing manganous oxide with powdered aluminium in a resistant crucible, and starting the reaction by means of a magnesium wire fuse. The metal is dark brown or black in colour, takes a high polish, and has a sp. gr. of 7.39, melting point $1260^\circ C$. It oxidises readily, evolves hydrogen slowly from water and rapidly from sulphuric and hydrochloric acids. It is used commercially for the production of the following alloys: manganese bronze (4-6 per cent Mn), Mn brass (with copper and zinc), Mn German silver (with copper and zinc), manganin—a very useful alloy for electrical resistances (Cu 81, Ni 12, Mn 4), Housler's alloy, a magnetic alloy (containing aluminium, Mn, and copper), spiegel iron (20-32 per cent Mn), ferro-manganese (70-80 per cent Mn), and Mn steel (as much as 12 per cent Mn). This steel is extremely hard, does not lose its temper, and is used particularly in machinery for crushing rocks. Manganese-nickel alloys for anchor bolts and boiler fire-bricks. The chief compounds are manganous oxide (MnO), a green powder obtained by igniting the higher oxides in a current of hydrogen; trimanganese tetroxide (Mn_3O_4), a reddish powder obtained by heating any oxide in the presence of air; manganese sesquioxide (Mn_2O_3), a dark brown powder obtained by heating any oxide in a mixture of nitrogen (75 per cent) and oxygen (25 per cent); manganese dioxide (MnO_2), a black solid found native as pyrolusite, and prepared as a hydroxide by shaking up the manganous hydroxide, $Mn(OH)_2$, with chlorine water. It may be used as a source of oxygen when heated alone or with sulphuric acid. Manganese trioxide (Mn_2O_3), obtained by the action of sodium carbonate on the green solution made by adding strong sulphuric acid to potassium permanganate. It is reddish-brown. Manganese hy-poxide (Mn_2O_3), a red-brown liquid made by the action of a little water on a solution of potassium permanganate in strong sulphuric acid. The manganates of the alkalis, formed by fusing manganese dioxide with the hydroxides of the alkalis; the permanganates of the alkalis, formed by treating the manganates with acids; manganous sulphide

(MnS), formed by precipitating solutions of manganese salts with ammonium sulphide; manganese sulphate ($MnSO_4$), a pink crystalline solid, formed by heating the dioxide with strong sulphuric acid; manganous chloride ($MnCl_2$), a red crystalline solid formed by passing gaseous hydrochloric acid over heated manganese carbonate. Some of the salts of manganese are used in medicine for the treatment of anaemia and chlorosis. The manganates and permanganates of sodium and potassium are used in solution as disinfecting fluids, e.g. in Condy's fluid. See also FERRO-MANGANESE.

Mangatarem, or **Mangalarén**, pueblo of Pangasinan Prov., Luzon, Philippines, on a trib. of the Agno Grande, 18 m. S. of Lingayen. Pop. 15,000.

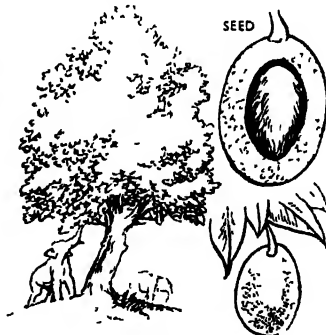
Mange, parasitic disease of the skin caused by the presence of minute M-mites. They are of four main kinds: (1) *Sarcoptes*, which burrow through the skin; (2) *Pscorptes*; (3) *Symbiotes*; and (4) *Dermatodectes*, which are more superficial in their operations. M. affects the horse, cow, sheep, pig, dog, cat, and also man. M. in horses is compulsorily notifiable to the local authorities, as also is psoroptic M. in sheep, or sheep scab. Repeated application of greasy dressings destroys the parasites.

Mangel-wurzel, or **Mangold**, important root crop rich in cane-sugar, and derived, like sugar-beet and garden beet, from *Beta maritima*, a weed (order Chenopodiaceae) found on the Eng. S. coast. The varieties of M. are of three types—long, tankard, and globe; red, yellow, or orange in colour. Many varieties are suited to special conditions, and the gold tankard is the most nutritious. The fruit is a rough integument containing four or five seeds, and is drilled in April in rows 20 to 30 in. apart, the young plants being subsequently singled out 10 to 14 in. apart in the rows. The crop, requiring a warm, dry climate, is grown chiefly in the S. of England, thriving best in richly manured, deep clay loams. The root is very sensitive to frost, and must be lifted in Oct., before it is ripe; it is kept in clamps till Feb. before feeding to stock.

Mangin, **Charles Marie Emmanuel** (1866-1925), Fr. general, b. at Sarrebourg, Meurthe, July 6, grandson of a member of the court of cassation and counsellor of state and son of Louis-Eugène M., a divisional general. Educated at Toulon and Versailles lycées, at the college of St. Francis Xavier, Lunéville, and at St. Cyr, he began his army career as an infantry marine subaltern, and saw service in the Sudan (1893-99), Tongking (1901-1), and Morocco (1912-13). In the First World War he commanded the 5th Div.; then the 11th Army Corps, the 9th Corps, the 6th Corps (1917), and in 1918 the Tenth Army. He rendered most distinguished service in the First World War, notably in 1916 in the great counter-stroke at Verdun, the furious attack on the Meuse, N. of the famous fortress, nominally conducted under the general command of Nivelle, being actually conducted by M. The scheme of the counter-attack at the

second battle of the Marne was drawn up by Pétain in consultation with M., Fayolle, and Dégoutte; and M. and Dégoutte commanded the Franco-Amer. troops which attacked the Gers. W. of Soissons near Château Thierry on July 18. He then assailed the Gers. on the line from the Oise to the Aisne with equal success. Finally in Aug. his army broke the 'Hunding line' between the Oise, Serre, and Aisne, and reached Mézières by Nov. 8, just before the armistice. Pubs.: *La Force noire* (1910), crowned by the Academy; *Comment finit la guerre* (1921); *Commentaires et portraits* (1922); *La Plus grande France*, and *Histoire militaire et navale (in Histoire de la nation française)*, ed. G. Hanotaux. See lives by G. Hanotaux, 1925; C. Bugnet, 1934; and P. Norrau-Vanthier, 1936.

Mangnall, **Richmal** (1769-1820), Eng. schoolmistress, was probably b. in Manchester, and received her education at Crofton Hall near Wakefield, Yorkshire. She afterwards joined the staff and eventually became head of the school. She wrote *Historical and Miscellaneous Questions for the Use of Young People* (1800); *Half an Hour's Lounge, or Poems* (1805), and *Compendium of Geography*, 1815.



Mango, kidney-shaped fruit, yellow and red in colour, of the M.-tree (*Mangifera indica*), which is extensively cultivated both for the fruit and for its numerous medicinal and economic uses.

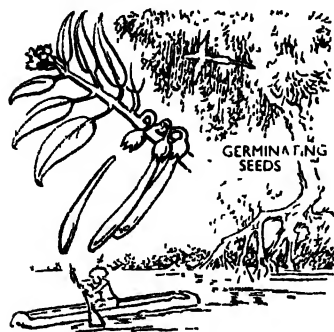
Mangosteen, brown orange-like fruit, filled with a most deliciously flavoured sweet pulp, of an evergreen tropical tree (*Garcinia mangostana*) with red unisexual flowers (family Guttiferæ).

Mangrove, or *Rhizophora*, genus of tropical trees of great value in reclaiming coast land. The seeds germinate on the parent tree, sending down roots of considerable size, and forming as the trees grow a great network which retains vegetable matter, and gradually converts swamps into solid ground. The fruit of *Rhizophora mangel* is edible. (See illustration, p. 734.)

Manhattan, co. seat of Riley co., Kansas, U.S.A., 52 m. N.W. of Topeka on the

Kansas R. It has iron foundries and flour-mills. Pop. 10,000.

Manhattan Island, situated at the mouth of the Hudson R., U.S.A. Its length is about 13 m., and its greatest width about 2½ m. It forms the commercial and financial centre and bor. of Manhattan, which is the chief business part of New York city. The rocks of which it is formed rise to a height of more than 240 ft. in the N. of the is. Peter Minuit, the first Dutch governor-general, bought it from the Indians in 1626 for the equivalent of twenty-five dollars. The building of permanent headquarters for the United Nations was started at M. on Sept. 14, 1948. See also NEW YORK CITY.



MANGROVI.

Mani, see under MANICHEISM.

Manic Depressive Psychosis, see under INSANITY (CLASSIFICATION).

Manichæism, religion professed and taught by a Persian named Mani (A.D. 216), a man of noble birth and a native of Ecbatana. He was well educated by his father, and brought up in the sect of the Mandæans. At the time of his birth two great religions, utterly opposed to one another, were the accepted creeds of the world he knew. One was Mithraism, an Iranian creed, and the other was Christianity. Mani had studied both, and also the ant. Persian Magism, and the new faith which he proclaimed combined many points from each creed. M. was a dual system of religion open to grave moral abuse, as St. Augustine, once a Manichæan, witnesses. Good and evil reigned as equal powers; the first man was a product of Satan, though containing a spark of the light of God. Mani believed he was the last of the chosen prophets, preached that Noah and Abraham and probably Zoroaster and Buddha were also prophets; he also taught a curious, shadowy, spiritual belief in Jesus Christ. The Persian king, Shapur I., was certainly influenced by his teaching; Hormizd, his successor, was tolerant and interested in this faith, but Barham I., who succeeded Hormizd, was a believer in the power of the priestly caste of Magians, who, bitterly hostile to Mani and

his creed, secured his deliverance into their hands. They crucified him, and flayed him while yet alive. The Manichæan belief existed, though modified by Christian influences, until the thirteenth century, and its moral dualism is found continually at the base of various early and medieval heresies, as the Bozonists, Albigenses, etc. See F. Cumont, *Recherches sur le manichéisme*, 1908-12; F. C. Burkitt, *The Religion of the Manichæes*, 1925; C. Widengren, *The Great Vohu Manah and the Apostle of God*, 1943; D. Obolensky, *The Bogomils*, 1948.

Manifest (from Lat. *manifestus*, plain), document, signed by the master of a vessel, and containing a list of all the packages or separate items of freight on board the vessel with their distinguishing marks, numbers, destination, description, etc. It is designed for the use and information of the custom house officers.

Manifesto, formerly a public declaration of war by a prince and explaining his motives. It was pub. within his own ter. and communicated to other states through the channels of diplomacy.

Manihiki Islands, an archipelago situated in the Pacific Ocean, N. of the Society Is. and to the W. of the Marquesas. The chief is. are Penrhyn, M., and Caroline. They were annexed by Great Britain during the nineteenth century, and are part of New Zealand for administrative purposes. Area 50 sq. m. Pop. (Polynesians) of M. 400, of Penrhyn 400; total pop. of archipelago about 1200.

Manila, cap. and prin. port of the Philippine Is., stands on the W. coast of the is. of Luzon, at the mouth of the Pasig. It was founded in 1571 by Legaspi, who inaugurated Sp. rule, and it remained Sp. until 1897, when it was captured by Amer. troops under Gen. Wesley Merritt. After the Philippines were ceded to the U.S.A. in 1899, many improvements were made both in and about the city. The old Sp. city, which was called Intramuros, remains substantially unaltered within the walls, which were restored by the Amers. after they took possession in 1898. The walls are stout and about 25 ft. high, with a circuit of 2½ m. They were begun in 1584 and completed by forced Filipino and Chinese labour. The small old city is in striking contrast to the city and suburbs outside it. There is a central square on which stand the cathedral, the chief gov. buildings, and the old Sp. gov. library. There are numerous churches and convents with hospitals and other Catholic institutions and, in all essentials, Intramuros is a Sp. tn., though the Filipinos have not been slow to adopt Amer. ways. The observatory was founded in 1865 by the Jesuits and up to the Second World War was still run by them, the official meteorological service for the Philippines being supervised there. Under Sp. rule the tn., surrounded by swamps and marshes, was malarial and unhealthy. Amer. engineers drained this land and on it were built healthy suburbs. Similarly what is now the promenade of Luneta was then beneath the sea. The Amers.

introduced a good system of electric lighting, a telephone service, and an excellent water supply, and linked the city with neighbouring towns by fine motor roads. The railway service was extended until the M. Railroad Company had, in 1941, a mileage of 712 of main-line track, and the small tramways were replaced by an Amer. street railway. But the greatest improvement was the construction of a deep and safe harbour; and the glory of M. before the Second World War was the range of new quays, unequalled in the Far E., and hardly surpassed in any seaport of the world; and M. Bay, with an area of 770 sq. m., is the finest harbour in the Far E. The quays were severely damaged in the Jap. attack in 1942, and the fact that the harbour was found in 1945 to be cluttered with sunken craft showed that during the Jap. occupation the port was used only to a limited extent. For the planning of M. the Amer. Gov. employed D. H. Burnham, the Chicago architect of the World's Fair in 1893 and later of Selfridge's store. Burnham and his associates designed avenues and parks, commercial quarters and suburbs, and the steady growth of the city justified the magnificence of their scheme. M. became one of the world's finest cities, with an excellent record in public health. The sloping lawns are a delightful feature, especially on the sides facing the modern city. The mouat was filled in in 1905. M. before 1941 was the greatest hemp market in the world and a famous port for the export of sugar, copra, tobacco, coco-nut oil, embroideries, lumber, and cordage, and for the import of foodstuffs, coal, cotton goods, and manufactured articles. The Philippine mint is at M., and the city had more than 1,000 factories, employing over 20,000 workers. There were tobacco and sugar factories, hemp-works, and mills for expressing oil. The temp. of M. rarely exceeds 100 even in the hot season, when the seat of gov. moves to Baguio. The archbishop of M. is metropolitan of the eccles. prov. of the Philippines (1941). Pop. 673,000.

The Jap. before the war were engaged in a systematic policy of infiltration, and were gradually making their way into various parts of business. The census statistics are significant; in 1925 the Jap. in M. were well under 2000 in number; by 1939 they numbered at least 50,000. The Amer. pop. was about 4000. Jap. bombers first raided M. on Dec. 7, 1941, the day on which they attacked Pearl Harbour. Jap. forces landed on Luzon on Dec. 9. There were repeated savage bombing attacks on the city throughout Dec., churches and other centres of Christian worship and culture being deliberately selected as targets. The beautiful old church of Santo Domingo, with its valuable art treasures and venerated relics was reduced to ruins. The great cathedral of the Immaculate Conception was attacked sev. times, as also with the college of San Juan Lateran, with its irreplaceable library of original MSS. Repeated attacks on successive days were made on the Santa Rosa and the Santa Catalina

convents. The San Juan de Dios hospital was also singled out for attack. In the hope of saving the city from bombing, its defender, Gen. MacArthur, declared M. an open city and its anti-aircraft guns were evacuated. Jap. troops entered M. on Jan. 2, 1942. Early in Jan. 1945 Amer. troops under Gen. MacArthur landed at Lingayan Gulf and advanced southwards towards M. Three weeks later other Amer. forces, landed on the Batangas Prov., menaced the cap. from the S. Two Amer. armies soon afterwards encircled the city and the first Amer. flying column entered it on Feb. 4. Gen. MacArthur was always in touch with the resistance movement in M. and communication with the city was maintained by numerous radio stations about the is. and by submarine throughout the period of Jap. occupation. See also PACIFIC CAMPAIGNS IN THE SECOND WORLD WAR. See J. Foreman, *The Philippine Islands*, 1906; J. B. Arnold, *The Philippines*, 1912; N. Roosevelt, *The Philippines*, 1927; H. W. Krieger, *Peoples of the Philippines*, 1942; and W. C. Forbes, *The Philippine Islands* (revised ed.), 1945.

Manila Bay, large bay on the W. of Luzon Is., Philippine Is. Its mouth is 10 m. wide, and it expands in the interior to a width of 35 m.

Manila, or Manila, Hemp, fibre obtained from *Musa textilis*, which grows and is cultivated in the Philippines, the coarser fibre being utilized for cordage and sailcloth, and the finer for handkerchiefs and scarves.

Manilius, Gaius, Rom. tribune, in 66 B.C. succeeded in having a law passed which gave to freedmen the right of voting in the same tribe as their patroni. On this being declared void by the Senate, he endeavoured to secure Pompey's assistance by proposing to confer on him supreme command in the war against Mithridates.

Manilius, Marcus or Gaius, Rom. poet. lived probably in the reign of Augustus or Tiberius. He was the author of a Lat. didactic poem about astronomy and astrology entitled *Astronomica*, a work in five books, the first two of which treat of astronomy as the foundation of astrology, the rest of the influence of constellations on human destiny.

Manilla, metal hoop or horseshoe, used by W. African tribes as currency, and still surviving in S. Nigeria. It is made of bronze, or of a mixture of tin, lead, and copper, is worth about 3d., and weighs about 3 oz. The gov. has decided to redeem it at a fixed rate, and after a stated period it will be illegal currency, save for some 200 which may be used for ceremonial purposes.

Manin, Daniel (1804-57), It. patriot, elected, during the revolution of 1848, president of the Venetian republic. From 1831 he became a recognised leader of Liberal opinion in Venice; in 1847 he was thrown into prison for a spirited public address of which he was the author. During the annexation of Lombardy to Piedmont M. laid down his authority, but on the defeat of the Sardinian forces at

Novara, March 23, 1849, he resumed it, and was the animating spirit of the entire pop. of Venice during the heroic defence of the city for four months against the besieging Austrian Army. On Aug. 24 Venice capitulated, but M., with forty of the prin. citizens, being excluded from all stipulations, quitted the city. He retired to Paris, where he d.

Maning, Frederick Edward (1812-83), by birth an Irishman, in 1833 went to New Zealand, settled at Onaki, and was made a naturalised Maori. He took part in the wars of 1845 and 1861, and in 1865 was made a judge for the purpose of settling titles of land. He wrote *Old New Zealand* (1863) and *The History of the War in the North in 1841* (1876).

Manioc, or Mandioc, also known as **Manihot**, **Mandioca**, **Cassava**, and **Yuca**—the last-named is not to be confused with yuca, a genus of the family Liliaceæ. M. is a plant with an edible root, which furnishes a starchy food now widely used throughout the tropics, but formerly known only in the Americas. It is now produced commercially as the source of tapioca. See also **CASSAVA**.

Maniple: 1. Eucharistic vestment assumed by a bishop or mitred abbot after the *Confiteor* in the mass and by a priest after the stole and before the chasuble. It is carried looped over the left wrist. At first a strip of linen it is now made of silk or other material about 3 ft. long, sometimes with a fringe and gold embroidery. It is said to symbolise penance. Disused by the churches of the Eng. communion it tends to reappear sometimes for wiping the chalice rim, which was its original purpose. 2. One of the divs. of the Rom. legion. From the fourth century B.C. onwards the 3000 heavy armed infantry formed twenty Ms. of 120 rank and file and ten of sixty, each with two officers called *centuriones* and a *virgillarius* or standard-bearer. Of each sixty soldiers twenty carried only a spear and javelin; the remaining forty had oblong shields, and probably also body armour.

Manipulative Surgery is the manual treatment, without the use of instruments, of affected joints. It thus includes massage (*q.v.*), but is more usually applied to special manipulation of the joints. It is often confused with osteopathy, which is a separate science of treatment. The medical profession as a whole still regards M. S. with suspicion, partly because it has for years been practised by people without medical qualifications. Although undoubtedly harm has been done in some cases, there are many in which good has resulted. Doctors are beginning to recognise this, and some are putting M. treatment on a scientific basis. Another hindrance to the progress of M. treatment was that certain able medical men advocated rest for affected joints. The 'rest cure,' however, often resulted in permanent stiffness.

Some affections that can be cured by skilful M. S. are adhesions of muscle and tendons to their sheaths; certain forms of dislocation; the wedging of synovial mem-

brane between two bones. A tubercular joint should never be treated by manipulation, and any affection should be carefully diagnosed, if necessary with the aid of a radiograph, before any treatment is applied. An anæsthetic is usually administered to ensure the complete relaxation of the muscles. In the treatment of adhesions the limb is grasped just above and below the joint, and, if extension be difficult, flexion is first performed, and then extension in such a way that the adhesions are separated. After the pain has subsided appropriate massage may be applied. Obviously if the operation be performed by any one without adequate knowledge considerable harm may result.

See J. B. Mennell, *Physical Treatment by Movement, Manipulation, and Massage* (5th ed.), 1945.

Manipur: 1. State of India, lying between Assam and Upper Burma. It consists of a valley surrounded by mts., the prin. products being tea, rice, cotton, opium, and tobacco. Area 8638 sq. m. Pop. 512,000. 2. Or **Imphal**, cap. of the state of M., 236 m. N.W. of Mandalay. Pop. 75,000. The state of M. and Imphal were involved in the most critical battles in Burma during the Second World War, when the Jap. vainly attempted to invade India. See under **BURMA**. **SECOND WORLD WAR CAMPAIGNS** IN.

Manis, see **PANGOLIN**.

Manisa, see **MAGNESIA AD SYPHLEUM**.

Manistee, co. seat of M. co., Michigan, U.S.A., on the Père Marquette railroad, 110 m. N.W. of Grand Rapids. Pop. 8600.

Manitoba, prov. of the dominion of Canada. Since its northward extension in 1912, to the sixtieth parallel, and N.-eastward to Hudson Bay, it has been a maritime prov.: its length is 1260 m. It has a S. frontier with N. Dakota and Minnesota (U.S.A.), to the E. lies Ontario, to the N.E. is Hudson Bay, to the N. the N.W. Tera., and to the W. Saskatchewan. It includes the whole of Lake Manitoba, Lakes Winnipeg and Winnipegosis, the Dauphin and Swan Lakes in the N.W., the Pelican and White Water Lakes in the S.W., and many smaller lakes; the total area under water in the prov. is 26,789 sq. m. The surface of the prov. is, on the whole, level, though there are some hilly tracts, such as the Turtle Hills in the S.W. and the Riding Hills further N., which are well wooded. In the E. is a continuation of the old crystalline rock formation which prevails in M., and some of the scenery is wild and rugged in character; N.W. the first prairie steppe extends through the prov., occupying one-half its area; on the W. and S.W. lies the second prairie steppe, occupying one-quarter; the boundary between the two steppes is marked by a series of elevations—Pembina Mts., Riding Mts., and Duck Mts. in the prov. itself and the Porcupine Hills on the boundary between M. and Saskatchewan. The Turtle Mts. stand in the S.W. part of M. by themselves. The surface of the first steppe is generally flat prairie, that of the second is more rolling, but on the whole there is little difference. The prin.

lakes lie within the first steppe, which has an elevation of about 800 ft. above sea level. The surface in the N.E. is very diversified, rough and broken, with frequent bogs and marsh land. All the lakes are very shallow, even Lake Winnipeg being nowhere more than 70 ft. in depth. The explanation of this is that all were at one time the centre of a glacial lake, Lake Agassiz to geologists, which covered three-quarters of M. and extended into the U.S.A. in the S., into Ontario on

into mixed farming and dairying. Newer varieties of wheat have been developed, increasing the areas where its growth is possible and moving the zone further W. and N. In 1947 the wheat acreage in M. was 2,497,000. The figure for other crops was: barley, 1,901,000; oats, 1,381,000; rye, 10,000; flax seed, 556,000; mixed grains, 13,400; other grains and pulses, 41,000; potatoes, 21,500; hay and clover, 214,600; fodder corn, 17,400. Stock-raising has become an important



National Film Board, Canada

MANITOBA: THE MINING TOWN OF FLIN FLOU

Flin Flou sprawls over one of the richest ore deposits in the world. Behind the private dwelling houses occupied by technicians, supervisors, and officials, rises one of the smelting works.

the E., and as far W. as the E. boundary of the second steppe. When the waters declined the S. central area of M. was left under deposits of clay and silt, now covered with black vegetable mould of great fertility. The prin. rvs. are the Assiniboine, rising in Saskatchewan, and the Red R., which rises in the U.S.A., and after a course of 700 m. (500 of which are in the U.S.A.) flows into Lake Winnipeg. At the junction of the two rvs. is Winnipeg.

The climate is generally healthy and dry. The trees include elm, oak, aspen, spruce, tamarack, maple, poplar, etc., and many varieties of fruit are grown. M. was formerly the great wheat prov. and Winnipeg the great market, but though the latter is still the case, the important wheat provs. are now Alberta and Saskatchewan. Wheat is still grown in M., but the impoverishment of the land by 'one-crop' farming has forced the farmers

activity, and hog raising, poultry-raising and bee-keeping are widely carried on. The livestock statistics in 1947 were: horses, 195,300; milk cows, 266,700; other cattle, 299,700; swine, 347,200; sheep, 181,000; poultry, 8,224,100.

Whilst the S. areas of M. are fertile agric. land, the N. two thirds of the prov. form part of the Laurentian Shield, the pre-Cambrian rocks of which hold promise of rich mineral deposits. In the Ruce-Beretsford Lakes dist. gold is being mined, whilst N. M. has large deposits of zinc, copper, gold, and silver. In the Snow Lake dist. large new gold deposits are being developed, as are rich nickel-copper deposits in the Lynn Lake area and new copper-zinc deposits in the Flin Flou area.

Lignite has been found in the M. portion of the Turtle Mts., and good coal in the S.E. In the N.W. are salt springs; in the Star Lake belt tungsten and molybdenum are mined; large deposits of gypsum occur

at Gypsumville, N.E. of Lake M. Cement, bricks, and limestone are also produced. The total value of minerals in 1948 was \$26,768,000.

Large quantities of high-grade fish are caught from the numerous lakes, to a value of \$5,408,000 in 1947-48. Forest reserves, including the Riding Mt. National Park, cover 3,545,000 ac. Animal pelts, in 1947, taken from the wild, were valued at about \$3,800,000, and from ranch-bred animals in 1947 \$726,589. In 1947 water-power generated totalled 2,055,000,000 kWh. In 1948 the gross value of manufactured products was \$450,000,000, produced in industrial establs. employing some 41,000 workers.

Winnipeg is the cap. and centre of trade. Other tns. include St. Boniface (21,600), the seat of a Rom. Catholic archbishop, who is metropolitan of an ecclies. prov. comprising all the Middle W.; Brandon (17,600); Portage la Prairie (7600), a wheat centre; and Selkirk, Dauphin, Transcona, Neepawa, Souris, and Minnedosa. The univ. of M., in Winnipeg, was founded in 1877, and has about 6500 regular students; the medical school is one of the best in Canada, as is the nearby M. Agric. College. There were 2091 state schools in 1946. Religious denominations number approximately: Rom. Catholic, 203,300; United Church, 194,000; Anglican, 125,100; Presbyterian, 43,000; and Baptist, 13,300. In 1947, there were some 5000 m. of railway in M., and the prov. is traversed by the two transcontinental lines, joining at Winnipeg.

M. was known as the Red R. Settlement before it entered the dominion in 1870. During the eighteenth century its only inhab. were fur trappers, but a more settled colonisation began in the nineteenth century. Until 1869 the administration of the area was in the hands of the Hudson Bay Company. It was then purchased by the new dominion; in 1870 M. prov. was set up, enlarged in 1881, and again in 1912 by the addition of part of the N.W. Terr. The prov. gov. is administered by a lieutenant-governor and a Legislative Assembly of fifty-seven members elected for five years. Proportional representation has been adopted for the ten seats in the city of Winnipeg, and the transferable vote in all other constituencies. Six members represent M. in the Senate and fifteen in the Canadian House of Commons.

The area of M. is 246,512 sq. m., comprising 219,723 of land and 26,789 of water. In 1871 the pop. was 25,228; in 1941 it was 729,744.

See G. Bryce, *Manitoba*, 1882; M. McWilliam, *Manitoba Milestones*, 1928; F. H. Kitto, *Manitoba: its Development and Opportunities*, 1931; J. F. Wright, *Geological and Mineral Deposits, S.E. Manitoba*, 1932; G. F. G. Stanley, *The Birth of Western Canada*, 1936; and Morton and Fahnestock, *Third Crossing*, 1946.

Manitoba, Lake, "fresh-water lake of Manitoba, Canada, 60 m. S.W. of Lake Winnipeg. It has an area of 1900 sq. m., with a length of 120 m. and a width of 26 m. Irregular in shape and tideless, the

lake is drained by the Little Saskatchewan R. into Lake Winnipeg.

Manitou: 1. Tn. of El Paso co., Colorado, U.S.A., 6 m. N.W. of Colorado Springs. Its position, over 6000 ft. above sea level, in the midst of beautiful scenery at the foot of Pike's Peak, makes it an important centre for summer visitors. It has also mineral springs, giving it an additional attraction. The 'Garden of the Gods' is close by. Pop. 1200. 2. Mkt. tn. on the Canadian Pacific Railway, Manitoba, Canada, 102 m. S.W. of Winnipeg. Pop. 600.

Manitou, name given by sev. Amer. Indian tribes to the presiding spirits which figure in their religious beliefs. Their number is unlimited, as individuals are each supposed to have a M. or protecting spirit. The M. is in almost all cases some animal chosen by the individual to be the object of his worship.

Manitowoc, co. seat of M. co., Wisconsin, U.S.A., on Lake Michigan, and on the Chicago and N.W. and the Wisconsin Central railroads. It has shipyards and docks; its harbour is good, and its lake trade considerable, large quantities of grain being exported. It manufs. machinery, cigars, iron goods, etc. Pop. 24,000.

Manizales, tn. in the dept. of M., Columbia, 73 m. S. of Medellin, founded in 1848. The inhab. are engaged in gold-mining. Pop. 86,000.

Mankato, co. seat of Blue Earth co., Minnesota, U.S.A., on the Minnesota R., 85 m. S.W. of St. Paul. It has stone quarries, iron foundries, and machine shops, and manufs. cigars, garments, tools, and cement. It has an important hog market and is a centre for poultry, dairy and cattle farming. Pop. 15,600.

Mankeeper, see NEWT.

Manley, Mrs. Mary de la Rivière (1663-1724), Eng. authoress, wrote sev. plays, two of which, *The Lost Lover* and *The Royal Mischief*, were produced in 1696 respectively at Drury Lane and Lincoln's Inn Fields. She led an irregular life and pub. sev. scurrilous works. She is best remembered for the *Secret Memoirs and Manners of Several Persons of Quality of both Sexes from the New Atlantis* (1709-1710), in which she slandered many well-known folk. See P. B. Anderson, *Mistress Delarivière Manley's Biography*, 1936.

Manlius, Marcus, consul 392 B.C.; took refuge in the capitol when Rome was taken by the Gauls in 390. When the Gauls endeavoured to ascend the capitol M. was roused from his sleep by the cackling of the sacred geese; collecting hastily a body of men, he succeeded in driving back the enemy, who had just reached the summit of the hill. For this heroic deed he is said to have received the surname of Capitolineus. In 385 he defonded the cause of the plebeians who were suffering severely from the harsh and cruel treatment of their patrician creditors. In the following year he was charged with high treason by the patricians, and, being condemned to death by the people, he was hurled down the Tarpeian Rock by the tribunes. The members of the Manlia

gens accordingly resolved that none of them should ever bear in future the premonition of Marcus.

Manly, tn. of Cumberland co., New S. Wales, 8 m. N.E. of Sydney. Pop. 5000.

Mann, Heinrich (b. 1871), Ger. novelist, b. at Lübeck, brother of Thomas M. (q.v.). On his father's side he descends from a long line of great merchants of the Hanseatic city of Lübeck, many of whom sat in the Senate. On his mother's side he has Lat. blood, for she was a Brazilian of Portuguese descent. His youth was spent in France and Italy. Showing no taste for business or politics, he began his career as a writer at an early age. His first novel, *Im Schlaraffenland* (Eng. trans. *Berlin, the Land of Cockayne*, 1925), was pub. in 1901. His nationalism, his merciless analysis based on sound documentation, has given him the name of the Ger. Zola, but side by side with the influence of Zola and the Maupassant has been that of D'Annunzio. M. is the acknowledged master of Wassermann and Feuchtwanger. His best work was suppressed by the censor until after the advent of the republic. His novels show us Germany as it was in its newly won vulgar prosperity from the end of the nineteenth century to the period just before the First World War. His next work was sensual and romantic and with a terribly style from which the later Expressionist writers drew much of their inspiration. His three novels on the life of the duchess of Assy, pub. in 1902-3 under the title *Die Götterinnen* (Eng. trans., *The Goddesses*, 1918; *Diana*, 1929), were in this vein. In the main, however, M. has made himself the novelist of the Ger. middle classes when he was not dealing with lit. subjects. Perhaps his greatest work is the trilogy in which he seeks to paint a vast fresco of Ger. life as it existed under Kaiser Wilhelm II. *Die Armen* (1917; Eng. trans., *The Poor* 1917) of the proletariat; *Der Untertan* (1918; Eng. trans., *The Patriot*, 1921) treats of the bourgeois; and *Der Kopf* (1925; Eng. trans., *The Chief*, 1925) of the governing class. These vols. reveal the disintegration and moral decay that even then were rotting away the pompous exterior of pre-war Ger. capitalist society. Naturally they were considered as an insult to 'Kultur' and, with the advent of the Nazis, M. was driven into exile. The whole is a scathing satire which in personalities at times outsteps the bounds of decency. His social criticism and psychological insight also found masterly expression in the novels *Professor Unrat* (1904; Eng. trans., *The Blue Angel*, 1932), which became widely known as a film; *Die Kleine Stadt* (1909; Eng. trans., *The Little Town*, 1931), which is a romantic story of a band of actors visiting an lt. tn.; and *Zwischen den Rassen* (1907). Under the Weimar republic M. became president of the writers' section of the Prussian Academy of Arts, but was expelled by the Nazis in 1933. Thereafter he lived in exile in France, where he lived in Nice until 1940, when he escaped to the U.S.A. By this time he had estab. an international position with such works as *Mutter Marie*

(1927; Eng. trans., *Mother Mary*, 1928); *Eugenie oder die Bürgerzeit* (1928; Eng. trans., *The Royal Woman*, 1930); and *Ernstes Leben* (1932; Eng. trans., *The Hill of Lies*, 1934). He also wrote two long historical novels on the life of Henry of Navarre, *Die Jugend des Königs Henri Quatre* (1935; Eng. trans., *Young Henry of Navarre*, 1937) and *Die Vollendung des Königs Henri Quatre* (1938; Eng. trans., *Henry, King of France*, 1939). These are ambitious studies of human greatness, but show a decline in artistic standards. M.'s miscellaneous writings include essays on Fr. literature and political writings against the Nazi regime. He has also written his autobiography, which is an outstanding work, *Ein Zeitalter wird besichtigt* (1945-1946).

Mann, Horace (1790-1859), Amer. educationist and statesman, b. at Franklin, Massachusetts, of poor parents, but eventually went to Brown Univ., where he graduated with high honours. He practised law with considerable success from 1823 to 1837, when he took up educational work and public affairs. Elected to the legislature of Massachusetts in 1827, and in 1836 to the state Senate, of which he became president. He was for eleven years secretary of the board of education. In 1848 he was elected to Congress, as the successor of ex-president John Quincy Adams, whose example he followed in energetic opposition to the extension of slavery. His able administration as secretary of the board of education gave him a central position in the hist. and development of education in America. His prin. works are his educational reports and *Slavery, Letters, and Speeches* (1851). See life by his wife, 1865; also C. A. Hubbard, *Horace Mann, Educator, Patriot, and Reformer*, 1910.

Mann, Sir Horace, see WALPOLE, HORACE.

Mann, Thomas (b. 1875), Ger. novelist and critic, b. at Lübeck, June 6, the younger brother of Heinrich M. (q.v.). There is a striking contrast between the two brothers. In Thomas the Lat. strain inherited from his mother is more prominent. As an artist he is largely subjective, drawing his themes from his own life and inner thought. Heinrich is more objective. He studies the causes of strength, Thomas those of weakness. Thomas is constantly preoccupied with the thought of death in the midst of life and with the position of the artist as an outcast from life. When he was fifteen years old his father d. His mother moved to Munich, where, after a brief interlude in an insurance office, during which he pub. his first story, *Gefallen*, he registered at the univ. but did not follow a set course. During a long stay with his brother Heinrich in Palestrina in N. Italy he began work on the novel which later appeared with the title *Buddenbrooks*. On his return to Munich he joined the staff of *Stapfischismus* as reader. Some of his stories were pub. in this jour. *Buddenbrooks* was pub. in 1900 (Eng. trans. 1924). It is a saga of the life of a merchant family of Lübeck, tracing

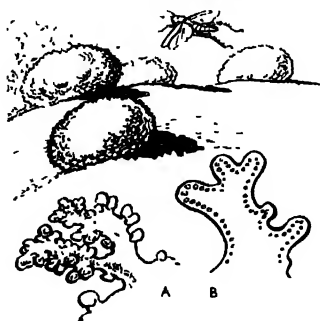
through four generations the gradual growth of decay as culture slowly saps virility. The novel at once estab. M. as one who had an individual contribution to make to literature. It was followed by *Piorenza* (1905), a dramatic dialogue, and *Tristan* (1903), a vol. of short stories including 'Tonio Kröger,' a story which exemplifies the conflict between the normal man and the artist. Of this story he wrote in the *Sketch of My Life* (Eng. trans., 1930), that in it he first 'grasped the idea of epic prose composition as a thought texture woven of different themes,' a conception which he later put to greater use in *Der Zauberberg*. He married in 1905. *Königliche Hoheit* (Eng. trans., *Royal Highness*, 1916) appeared the following year. In 1912 a visit to his wife, who was undergoing a cure at Davos, laid the foundations for the great novel *Der Zauberberg*, which was not, however, completed until some years later. In the meantime he pub. *Der Tod in Venedig* (1913; Eng. trans., *Death in Venice*, 1925) and *Das Wunderkind* (1914). His writings after the outbreak of war in 1914 were directed towards justifying the Ger. position, notably in an essay on Frederick the Great, *Friedrich der Grosse und die grosse Koalition* (1915). His 'reflections of a non-political man,' *Betrachtungen eines Unpolitischen*, of which he said 'the problem of the German nation there treated was beyond doubt my own—therein lay the national character of the book,' was pub. in 1918. Other essays were collected in two vols. and pub. in 1922—*Rede und Antwort* and *Bemerkungen*—also an essay on Goethe and Tolstoi (1923). Part of his study of a swindler, Felix Krull, belongs to this period, and was later completed and pub. in 1938 as *Bekenntnisse des Hochstaplers Felix Krull*. *Der Zauberberg* was pub. in 1923 and was immediately trans. into most European languages (Eng. trans., *The Magic Mountain*, 1927). The novel, based on life in a sanatorium, treats not only of the process of disease in sick minds and bodies, but also of the sickness of Europe. It is a vast symbolical work probing the question of culture in relation to life. In 1929 M. was awarded the Nobel prize for literature. The following year he pub. *Mario und der Zauberer* (Eng. trans., *Mario and the Magician*, 1930). The coming of the Nazi regime led to a self-imposed exile and he went to Switzerland, where from 1937 he ed. a literary jour., *Mass und Welt*. He was deprived of his Ger. citizenship and also of the degree of 'Ehrendoktor' which he held at Bonn Univ. The letter from the dean of the univ. and M.'s reply were pub. together as *Ein Briefwechsel* (1937) (Eng. trans., *An Exchange of Letters*, 1937). Meanwhile his greatest work was in course of pub., *Joseph und seine Brüder*, a long novel which appeared in four parts: *Die Geschichten Jaksabs* (1933); *Der junge Joseph* (1934); *Joseph in Ägypten* (1936); *Joseph der Ernährer* (1941) (Eng. trans., *Joseph and his Brothers*, 1934; *Young Joseph*, 1935; *Joseph in Egypt*, 1938; and *Joseph the Provider*, 1941). In this

work he attempts, in his own words, to construct 'by means of mythical psychology, a psychology of the myth,' showing how the process of life, the duality of spirit and flesh, expresses itself through myth. The novel is notable not only for its philosophic questioning of the nature of man but also for its narrative power and characterisation. Throughout this period M. constantly wrote or lectured on political themes in support of anti-Nazi movements. He stressed the indivisibility of his nature as artist and social critic, and the unity of the world of intellect. A number of his political essays and speeches have since been pub. in an Eng. trans. under the title *Order of the Day* (1942). In 1938 M. went to the U.S.A. and became an Amer. citizen. He lived for a time in Princeton, New Jersey, and in 1941 settled in California. Later works include *Lotte in Weimar* (1939; Eng. trans., *The Beloved Returns*, 1940); *Die Vertauschten Köpfe* (1940; Eng. trans., *The Transposed Heads, a Legend of India*, 1941); and a contribution to *The Ten Commandments* (1945), a collection of ten short novels by different writers, each on the theme of one of the commandments. M.'s contribution was on the first commandment and is a story of the life of Moses. In 1949 he pub. *Dr. Faustus: the Life of the German Composer Adrian Leverkühn as told by a Friend*, the Faust legend brought up to date with a background of pre-war and post-war Germany. His son Klaus and daughter Erika have gained recognition as writers. In 1919 he received an honorary doctorate of literature at Oxford Univ. and returned to Germany. See J. Cleugh, *Thomas Mann, a Study*, 1933, and J. G. Brennan, *Thomas Mann's World*, 1942; also *Thomas Mann: Stories and Episodes* (a selection, Everyman's Library), 1940.

Mann, Tom (1856-1941), Brit. working-class leader, worked from nine to fourteen on farm and in mine, served apprenticeship in engineering for seven years at Birmingham, settled in London in 1876, joined Amalgamated Society of Engineers in 1881, and became a Socialist in 1885. He was one of the leaders of the great dock strike (1889); president of the Dockers' Union, 1890-93; president, International Ship, Dock, and Riv. Workers, 1892-96. He was secretary of the Independent Labour party, 1891-96, and first secretary of the London Reform Union and of the National Democratic League; and thrice stood as parl. candidate. After residing, 1902-8, in Australia, where he continued his Socialist propaganda and was imprisoned, he visited S. Africa, and returned (1910) to England, where he became leader of the Syndicalist movement, and was imprisoned for his connection with the 'Don't Shoot' manifesto to soldiers, 1912. General secretary, Amalgamated Engineering Union, 1910-1921. Pub. his memoirs 1923.

Manna, name given to a variety of natural products. Many people suppose the M. eaten by the Israelites in the wilderness to have been *Lecanora esculenta*, an edible lichen which is removed

from rocks by wind and carried long distances. According to others it is the gummy saccharine secretion discharged by a tree, *Tamarix mannifera*, when punctured by a cochineal-like Coccus. The M. or flowering ash (*Frazinus ornus*) exudes a sweet substance containing mannite, a sugar commonly found in many forms of vegetable life.



MANNA

A, B, highly magnified.

Mannerheim, Baron Carl Gustaf Emil (b. 1867), Finnish soldier, b. at Villnäs, his family being of Swedish descent. He served in the Russo-Jap. war, 1904-5, and in the First World War, becoming leader of the Russian cavalry in 1917. After the Bolshevik revolution he returned to Finland to lead the Finnish White Army, and, aided by Ger. forces, defeated the Russo-Finnish Red troops at Tammerfors and Viiborg. Regent of Finland, Dec. 1918-July 1919, he was defeated in the Finnish presidential election by Stachberg (1919). It was at his suggestion that the M. line, the former Finnish defence system on the Karelian isthmus, was constructed. He commanded the Finns in the Russo-Finnish war of 1939 (see further under FINLAND). He has written *Across Asia from West to East* in 1906-8 (1940).

Manners, John James Robert, seventh Duke of Rutland (1818-1906), Eng. statesman, entered Parliament as a Tory in 1841, and became one of the 'Young England' party, being influenced by Disraeli. He figures in *Coningsby* as Lord Henry Sidney, and in other of his leader's novels. In 1852, and again in 1858, he was first commissioner of works, with a seat in the Cabinet, in the Derby administration; and under Disraeli (1874-80) and Salisbury (1885-86) he held the office of postmaster-general. In Salisbury's second ministry (1886-92) he was chancellor of the duchy of Lancaster. In 1888 he succeeded to the dukedom.

Mannheim, tn. of Baden, Germany, situated at the junction of the Neckar and the Rhine, 46 m. S.S.W. of Frankfurt. The tn. which, like the twin tn. of Ludwigshafen on the opposite side of the riv., is

modern, solidly built, with blocks of magnificent flats and great factories along the Rhine, was severely damaged during the Second World War. It has risen to importance through its manufs. of chemicals, iron goods, machinery, carpets, cigars, and flour, and of armament factories before the Second World War. M. is the terminus for large vessels in the Rhine traffic, and thanks to its excellent docks, which have over 30 m. of berthing, has built up a considerable reputation as a transport centre and has developed a shipbuilding industry. M. is low-lying and protected by a dyke, and the plan of its streets, including a wooded ring road, is characterised by its extreme regularity. The chief buildings of interest are the palace, public library, observatory, and national theatre. It has an airport at Ostheim, outside the city. New suburbs are Neckarstadt in the N., Schwetzingenstadt in the S.W., and Lindenhof in the S. M. began to flourish in the beginning of the seventeenth century, but suffered many vicissitudes during the Thirty Years' war. It was annexed to Baden in 1802. M. was repeatedly bombed by the R.A.F. in the Second World War between 1940 and 1944. On March 17, 1945, Gen. Eisenhower issued a warning to M. (and Frankfurt) that those cities would be destroyed from the air. The Neckar was crossed on March 28 and M. surrendered to the allies on the following day. Pop. 283,800.

Mannin, see MAN, ISLE OF

Manning, Anne (1807-79) Eng. authoress. Wrote *Mary Powell* (1850), *The Household of Sir Thomas More* (1851), and numerous other historical stories. See life by Charlotte M. Yonge in *Women Novelists of Queen Victoria's Reign*, 1897.

Manning, Henry Edward (1808-92), Eng. cardinal and theologian, b. at Totteridge, Hertfordshire, and educated at Harrow and Oxford, where he became notable as an eloquent preacher and as one of the ablest of the Tractarian party. He was rector of Woolavington-cum-Graffham, 1833, and archdeacon of Chichester, 1840. In 1851 he entered the Church of Rome, in which he attached himself to the Ultramontane party. Becoming archbishop of Westminster in 1865, he took a leading part in the debates at the Vatican Council (1870) on papal infallibility. Afterwards he pub. *Petri privilegium* (1871) and when this was attacked by Gladstone in *Papalism* M. wrote *The Vatican Decrees* (1875), in which year he was created cardinal. His other writings consist of sermons, of which he pub. sev. vols. before his secession from the Church of England, and controversial works, including *The Temporal Mission of the Holy Ghost* (1865) and *The Eternal Priesthood* (1883). M.'s later life was devoted largely to social reform. He encouraged Gen. Booth's work in this direction, founded a Rom. Catholic total abstinence association, the League of the Cross, and took a prominent part in industrial pacification, especially in the London dock strike of 1889. More

practical than Newman, he was a leading spirit in the Rom. Catholic Church in England during the nineteenth century. See lives by E. S. Purcell, 1896 and Shane Leslie, 1921.



CARDINAL MANNING

Manning, or Mannyng, Robert, or Robert of Brunne (c. 1264-1338), Eng. poet, was a native of Bourne, Lincolnshire. He wrote *Handlyng Synne*, a trans. of the *Manuel des Pechiez* of Wm. of Waddington, and *The Chronicle of England*, a new version in octosyllabic rhyme of Wace's *Brit d'Angleterre*, plus a trans. of the Fr. rhyming chronicle of Peter Langtoft. M.'s work is of great linguistic importance, and did much to further the adoption of the Midland dialect as the acknowledged literary instrument.

Manning, Thomas (1772-1840), Eng. traveller and writer, b. in Suffolk and educated at Calus College, Cambridge, where he studied Chinese. Friend of Charles Lamb, he is often mentioned in Anger's and Lucas's eds. of Lamb's letters, and in *Essays of Elia*. He went to Canton in 1806 as a medical practitioner, and visited Lhasa in Tibet (1811-12), being the first Englishman to go there. He was a master of Chinese classical literature, and in his time was regarded as the first Chinese scholar in Europe. He also wrote on mathematics. See memoir by Sir C. R. Markham, 1876.

Manningtree, mkt. tn. of Essex, England, on the R. Stour, about 8 m. from Colchester. The chief industry is malting, and there is also a trade in timber and corn. Pop. 1400.

Mannite, or Manna Sugar, $C_6H_{12}O_6$, chief constituent of manna, an exudation from the manna ash-tree, *Frazinus ornus*. M. also occurs in onions, brown seaweed, and many other plants. It is a crystalline substance, readily soluble in water and alcohol. M. is obtained from manna by

extraction with alcohol and subsequent crystallisation. It was formerly used as an aperient in Europe, and is still employed for this purpose in S. America.

Mannlicher Rifle, rifle much used for sporting and target practice, which, towards the close of last century, was adopted for military purposes by several states, particularly Austria-Hungary and Bulgaria. The Austrian type had a 'straight-pull' bolt, i.e. bolts which are not turned for locking, but one in two parts which telescope into each other. The 1895 pattern was a clip-loader, weighing 8 lb. 5½ oz., 4 ft. 2 in. long (bayonet being 9½ in.); its calibre was 8.00 mm. 0.315 in., and it was sighted from 300 to 2000 metres. The Dutch, Bulgarian, and other types had the usual turnover levers and locking lugs in place of straight-pull bolts. The commonest sporting model is of 0.256 calibre.

Mannleufel, Freiherr von, see MAN-TEUFEL.

Manoas, see CONIBO.

Manoel I. (1469-1521), surnamed 'the Happy,' king of Portugal, b. at Alcochete. He sent Vasco da Gama round the Cape of Good Hope to India (1497), Cabral on the voyage which resulted in the discovery of S. America (1500), Corte Real to Labrador (1500), and Albuquerque to the E. Indies (1505). During his reign he made many notable reforms in the field of administration and justice, and founded schools, making his court a centre of culture.

Manoel II. (1849-1932), king of Portugal, b. at Belem, near Lisbon; son of Carlos I., on whose assassination he succeeded to the throne in 1908. He was dethroned in 1910 on the estab. of the republic. He came to reside in Twickenham, England. In 1913 he married Augusta Victoria of Hohenzollern.

Man-of-War Bird, or Frigate Bird (*Tachypetes aquilus*), natatorial bird with an enormous expansion of wings and great powers of flight.

Manometer, instrument for determining the pressure of gases enclosed in a vessel. The simplest form consists of a long, straight tube, dipping into a box containing mercury. The pressure of the gas to be gauged is communicated through an opening in the box to the surface of the mercury, and the upper end of the tube is open to the atmosphere. If the pressure of the enclosed gas is greater than that of the atmosphere, the mercury is forced up the tube. A pressure of two atmospheres forces the mercury upwards to a distance of 30 in. above the level of the mercury in the box, so that this form of M. cannot be used for great pressures. Another form used for small pressures consists of a bent tube open at both ends and containing a quantity of mercury in the bend. When the pressure of the enclosed gas is communicated to one surface of the mercury, the mercury in the other limb rises or falls as the pressure is greater or less than that of the atmosphere. If, for instance, the mercury sinks ½ in. in one limb, it will rise ½ in. in the other, and the difference of level will be 1 in. The pressure of the enclosed gas will therefore be equal to one

atmosphere, plus the weight of 2h in. of mercury. For greater pressures a U-tube closed at one end is employed. The open end communicates with the enclosed gas and the closed end is furnished with a scale. If the pressure of the enclosed gas is equal to that of the atmosphere, the mercury will be at the same level in both limbs. If the pressure rises above that of the atmosphere, the mercury in the open limb sinks, and that in the closed limb rises, thus compressing the air in the closed limb. Suppose h to represent the length of the air column at atmospheric pressure, and h the length at the pressure of the gas;

then the pressure of the air column is $\frac{H}{h}$.

The difference in height of the two mercury columns is $2(h - h)$, therefore the pressure of the enclosed gas must be equal to the weight of a column of mercury

whose length is $2(H - h) \div \frac{H}{h}$ atmospheres.

Manor (Lat. *manerium*, from *maneo*, remain or dwell, the connotation being the usual residence of the owner). In Domesday Book each tract of land belonging to the king or some great feudal noble holding of the king is generally found to consist of sev. holdings called *maneria* or *Mss.*, which for the most part are coterminous with the villa, tith., or vis. A *M.* appears to have denoted such dist. of a great personage as he kept in his own hands for the abode and use of his family, and hence this dist. was also termed *demesne* (or *terra domicalis*, from Lat. *domus*, home) lands, in contradistinction to the *tenemental* lands, which the lord distributed among his tenants. In the domain there was generally a mansion or *M.-house*, which was occupied by the owner of the manerium or by his bailiff (for a number of the greater barons held numerous *Mss.*, and could not therefore personally occupy them all), together with a certain quantity of arable and meadow land in scattered strips. (See as to common field system under LAND.) Quite early in the Eng. land-holding system the great barons granted out smaller *Mss.* by way of subinfeudation, to be held of themselves, the sovereignty of such lesser lords being termed an *honour*. These inferior lords in their turn carved out of their estates yet smaller estates, and the practice would doubtless have been followed out almost to infinity but for that provision in Magna Charta, designed in the interest of the greater barons, who found that they were being deprived of their feudal profits, which enforced on lesser barons the obligation to retain sufficient land to answer their overlords' demands. Later the statute of *Quia Emptores* (q.v.) forbade subinfeudation altogether by the provision that the grantee should always hold not of the grantor but of the chief lord of the fee. All *Mss.* existing in present times were, therefore, stereotyped from the time of that statute (Edward I.). The reservation of mineral rights, exiguous quit rents from manorial freeholders, and fines on admission to copyhold estates, were the prin. remaining benefits at-

taching to a *M.* up to recent times. What privileges or anachronisms of tenure survived, however, were abolished by the Law of Property Act, 1922, which Act, *inter alia*, enfranchised all copyhold land on terms which are laid down in Part V. of the Act. See F. W. Maitland, *Domesday Book and Beyond*, 1897, and P. Vinogradoff, *Growth of the Manor*, 1908; H. S. Bennett, *Life on English Manors, 1150-1400*, 1937; and D. Jerrold, *Introduction to the History of England*, 1949.

Manrent, in Scottish hist., a kind of bondage whereby free persons became the bondmen or followers of their patrons and defenders. Hence equivalent to homage, or the attendance and personal service connoted by homage. The term is a corruption of *manred* (A.-S. *Manræden*, homage, from *mann*, vassal, and *ræd*, condition).

Manresa, tn. of Spain in the prov. of Barcelona, on the R. Cardener, 41 m. N.W. of Barcelona. The collegiate church of Santa Maria is a fine example of Sp. Gothic, and contains a fine fifteenth-century Florentine altar-frontal. *M.* is famous as the place where Ignatius of Loyola (q.v.) first felt himself inspired to found the Jesuit order, 1522. Pop. 34,000.

Manrique, Gomez (c. 1412-91), Sp. poet and soldier, b. at Amusco. He took a prominent part against the constable Alvaro de Luna in the reign of John II., went into opposition against Miguel Lucas de Tranzo in the reign of Henry IV., and declared in favour of the Infanta Isabel. As a writer he was greatly esteemed in his own day and composed didactic verses, modelled on those of Santillana, and satires as well as dramas; indeed he appears to be the earliest Sp. dramatist. Among his works are *Representación del nacimiento de Nuestro Señor*, a play on the Passion, and two *monas*, or interludes. His poems were first printed in 1835, and ed. by Antonio Paz y Melia.

Manrique, Jorge (1440-78), Sp. poet and soldier, probably b. at Paredes de Nava. He owes his reputation as a poet to *Coplas por la muerte de su padre* (1492), an elegy on the death of his father, which, with its sublime expression, ranks among the first poems of the world. A critical ed. of this work was pub. in 1912.

Mans, Le, cap. of the dept. of Sarthe, France, 112 m. S.W. of Paris. It has a cathedral, originally founded by St. Julian, which contains the tomb of Berengaria, queen of Richard Cœur de Lion. There is also the *hôtel de ville*, built in 1756 on the site of the former castle of the counts of Maine, and the prefecture (1760), which occupies the site of the monastery of La Couture, and contains the library and the communal archives. Le *M.* is the seat of a bishopric dating from the third century, and is an important railway centre. The tn. is the scene of an important motor-racing event. The chief industries are the state manuf. of tobacco, the preparation of preserved vegetables, fish, etc. In the allied advance on the W. front in 1944 the 8th Corps of Patton's Third Amer. Army was left to reduce

the Brittany ports, while the rest of the troops of that army, turning their backs on Brittany, struck S. and seized L.e M., Mayenne, and Laval; after which a spearhead struck N. from L.e M. to advance through Alençon toward Argentan. Pop. 84,000. See WESTERN FRONT 1st SECOND WORLD WAR.

Mansard, or Mansart, François (1598-1666), Fr. architect, b. at Paris. He made use of a peculiar kind of roof, which had been used 100 years before by Lesnot, but which henceforth was called the M. roof. Among his buildings, the chief are the Château de Maisons-sur-Seine, and the churches of Sainte-Marie-de-Challot, the Minimes de la Place Royale, and the Visitation de Sainte-Marie in the rue Saint-Antoine.

Mansard, or Mansart, Jules Hardouin (1648-1708), Fr. architect, nephew of François M., b. in Paris. He superintended the construction of all the prin. buildings of Louis XIV., including the palace of Versailles, the Maison de Saint-Cyr, the Grand Trianon, and the dome of the Hôtel des Invalides. He also built the Château de Clagny for Mme de Montespan.

Mansarowar, see MANASAROWAR.

Mansaurah, see MANSCRA.

Mansbridge, Albert (b. 1876), Eng. educationist, b. at Gloucester, Jan. 10, and educated at Battersea Grammar School. He was one of the pioneers of adult education (q.v.), founding the Workers' Educational Association in England in 1903 and in Australia in 1913. From 1903 to 1915 he acted as secretary of the association. During the First World War he continued his services to education on behalf of the Brit. and Australian Armies. He has been a member of various gov. committees on education, including the Consultative Committee of the Board of Education, 1906-12, and again in 1924; also a member of the royal commission on the univs. of Oxford and Cambridge, 1919-22. In 1918 he founded the World Association for Adult Education, and was the first chairman. In 1929 he relinquished his chairmanship and became president. He is also founder of the National Central Library for the Seafarers' Education Service, and the Brit. Institute of Adult Education. Books include *An Adventure in Working Class Education* (1920); *The Older Universities of England* (1923); *Margaret McMillan, Prophet and Pioneer* (1932); *Brick upon Brick: the Co-operative Permanent Building Society* (1934); *Edward Stuart Talbot and Charles Gore* (1935); *The Trodden Road* (1940); *The Kingdom of the Mind* (1944); and *Fellow Men: a Gallery of England, 1876-1946*, (1948). He was created Companion of Honour in 1931, and holds the honorary degrees of M.A. at Oxford and LL.D. at Cambridge, Manchester, and Pittsburg.

Mansie, name given in Scotland to the house of the minister of the Estab. Church and Free Church. Every first minister of a rural par. is entitled to his M.; if there is not one existing the landed proprietors in the par. are bound to build one. He is

also entitled to a stable or barn as part of his dwelling-house, and his M., when built, must be kept in repair by the heritors, but these may, after the M. is 'made sufficient,' apply to the presbytery to declare it free, when the incumbent must do the repairs. During the time occupied by rebuilding or repairs, the minister is entitled to an allowance from the heritors as M. rent. By statute the M. must be near to the church.

Mansel, Henry Longueville (1820-71), Eng. metaphysician, b. in Northamptonshire. He was educated at Merchant Taylors' School and St. John's College, Oxford, and took holy orders in 1841. He was Bampton lecturer in 1858, and prof. of eccles. hist., 1860-65. In 1868 he delivered a course of lectures upon *The Gnostic Heresies*, and in the same year was appointed to the deanery of St. Paul's. Among his works are *Phronetisierion* (1850); *Prolegomena logica* (1851); *The Limits of Demonstrative Science* (1853); and *Man's Conception of Eternity* (1854). He also contributed to the *Speaker's Commentary*, and to *Aids to Faith*, and ed. with Veltch the lectures of Sir Wm. Hamilton.

Mansfield, Peter Ernst I., Graf von (1517-1604), governor of Luxembourg, served Philip II. of Spain at St. Quentin and in the Netherlands. He went to the aid of the king of France with a body of troops when he was fighting against the Huguenots, and was present at the battle of Moncontour (1569).

Mansfield, Peter Ernst II., Graf von (1580-1626), Ger. soldier, illegitimate son of Peter Ernst, and one of the greatest generals of the Thirty Years war, first fought under the duke of Savoy against the Spaniards. Sent to help the Bohemian rebels, he took Pilsen and compelled Count Bucquoi to evacuate Bohemia, but afterwards induced the Bohemians to make Frederick, the elector palatine, their king. The latter being defeated by the imperial troops, M. for a long time held out at Pilsen and Thabor, but, yielding to superior numbers, he retreated to the Palatinate (1621). The following year he ravaged Alsace and, joining forces with Frederick, defeated both the Bavarians and the Hessians. Entering Belgium and uniting with the duke of Brunswick, he defeated the Spaniards at Fleurus and penetrated into Westphalia, pillaging so many tns. that the inhab. of the prov. offered him a considerable sum to depart. In 1625, at the head of a motley army, he re-entered Germany, but sustaining defeat at the hands of Wallenstein, he retreated to Brandenburg. Giving up the command against Austria he elected to try his fortunes in Venice, but d. at Vranovitz. See J. Massarette, *La Vie militaire et fastueuse de Pierre Ernest de Mansfeld*, 1931.

Mansfield, Katherine (1890-1923), Brit. writer, b. in Wellington, New Zealand, of the second colonial generation, her father being the colonial-born son of Arthur Beauchamp, a settler. Her father is the Stanley Burnell of her sketches. At the age of thirteen she was sent to England to be educated at Queen's College, Harlow.

Street, returning to New Zealand in 1906. Her writing was first noticed and encouraged by A. R. Orange, then the editor of the *New Age*. Her first collected volume of stories *In a German Pension* was published in 1911, being Bavarian sketches crudely written but intense. Only with the greatest difficulty did she succeed in having her work accepted, and the only time she was certain of a home for her talent was during the period when her husband J. Middleton Murry was editor of the *Ithenzum*. She disliked the provincialism of Wellington ('Philistia itself'), and in 1909 returned to England. From this point it is possible, however, to trace from her works the development of a talent that was to find its perfect material in the experiences of her early New Zealand years. The work of the ensuing eight years of experiment posthumously collected in *Something Childish* (1924), begins with a group of New Zealand stories, the remainder ranging through the continent and the various strata of English suburbia—entertaining but somewhat forced. In Dec. 1917 she contracted pleurisy, and from then till the end of her life, at Fontainebleau, she settled in many fits of heroic and weary battle against disease. Her early work consists of descriptive and highly ideal sketches. With the pub. of *Bliss* (1920), however, it was evident that her first phase of vivid telescopic journalism was over. In this and her succeeding collection *The Garden Party* (1922) she combined detailed and restless observation of objects with a slowly maturing philosophy of tolerance. She finally summed up her talent as 'very against corruption. No longer could criticism so well indicate her hatred of sentimentality of code life and her vindication of living by feeling and personality—characteristics of *Prelude* (1918), *Bliss* (1920), *The Garden Party* (1922), *The Daughters of the Lake* (1923) of all her later and more solid work. In *Prelude* she turns once more to the scene of her childhood, the book being a considerable advance on her previous work, its perfection of form being derived from a study of Tolstoy. In it the idealised New Zealand of her childhood becomes a refuge from surroundings that in sickness of mind and body had become ever more distasteful to her. Her outlook was uncompromising, for this reason her letters are as vicious as her stories and continually reveal a gift for humor and pathos which is her especial secret. Her death at the early age of thirty-three was a severe blow to literature in general and to the short story form in particular. The posthumous *Journal of Katherine Mansfield* (1924) and her *Letters* (1928, enlarged 1949) have been ed. by her husband J. Middleton Murry. See Ruth L. Mantz, *The Critical Bibliography of Katherine Mansfield* 1931 and A. Sewall, *Katherine Mansfield: A Critical Essay* 1936, also life by Ruth L. Mantz and J. Middleton Murry, 1933.

Mansfield, William Murray, Earl of (1705-93) Eng. judge, b. at Secon in Perthshire. He was educated at West

minster School and at Christ Church Oxford and having taken his degree of M.A. was called to the Bar in 1730. He was made king's counsel and solicitor general to Lord Wilmington's Gov., 1742 (entering Parliament as member for Boroughbridge) and in 1743-44 proved himself the ablest defender of the gov. in the House of Commons. In 1751 he became attorney general to the duke of Newcastle's administration which he defended against the attacks of Pitt, and in 1756 was called to the degree of serjeant at law sworn in as lord chief justice of the king's bench and created Baron M. in the co. of Nottingham. He incurred in 1767 some hatred by discountenancing some prosecutions under the penal law of 1700 which made celebration of mass by a Rom



EARL OF MANSFIELD
From the picture by Sir J. H. Keyno I

Catholic priest punishable by imprisonment for life, and still further increased his unpopularity by his conduct in the case of Wilkes in 1768, and by 17 directions to the jury in three cases of sedition libel arising out of the pub. and sale of Junius's letter to the king in 1770. In 1776 he became Earl of M. His house was sacked and burnt during the Gordon riots 1780 and he retired from office in 1794. He did much to improve mercantile law, the law of evidence and the procedure of courts, and as a parliamentarian was second only to Chatham. M. may be truly said to be the founder of the commercial law of England (Mr. Justice Buller). With his Scottish training, M. was not too favourable to the Eng. common law and he derived many of the principles of mercantile law that he laid down from the writings of foreign jurists as embodying the custom of merchants all over Europe, much in the same way as did the *præter peregrinus* in a text to Rome (see JUS GENS. *supra*). But while he obtained his legal principles from those sources, he took his facts from mercantile specialists whom he carefully directed on the law. Indeed

he reared a body of special jurymen at Guildhall, who were generally returned on all commercial cases to be tried there. On terms of the most familiar intercourse with them, he learned from them the usages of trade, and in return took pains in explaining to them the guiding principles of jurisprudence. See Lord Campbell, *Lives of the Chief Justices*, 1849-57; W. S. Holdsworth, *History of English Law*, vol. xii., 1923 ff; and Lord Birkenhead, *Fourteen English Judges*, 1926.

Mansfield: 1. Largest municipal bor. in Nottinghamshire, England, on the Mann; it is in the centre of the N. Nottinghamshire coalfield and a large industrial area. The prin. industries include coal-mining, hosiery, cotton doubling, artificial silk, woollen goods, boots and shoes, leather goods, light engineering, iron and brass foundries, radio and aircraft components, stone quarrying, moulding sand and sand lime bricks, malting, the manuf. of decorated tin boxes, and plastics. Sherwood Forest and the vale of Trent are in close proximity. Pop. 51,000. 2. City and co. seat of Richland co., Ohio, U.S.A., 60 m. S.W. of Cleveland. It is the seat of the Ohio state reformatory, and has an extensive trade with the surrounding agric. country. Its manufs. consist of stoves, threshing machines, and other iron and brass goods. Pop. 37,200.

Mansfield College, theological institution opened in 1889 in Oxford, to give instruction to students who wish to become Congregational ministers. It is a non-univ. college, and is devoted solely to the study of theology.

Mansfield Woodhouse, tn. of Nottinghamshire, 1½ m. N. of Mansfield. Two Rom. villas were discovered in the neighbourhood in 1786. Pop. (1931) 14,000.

Mansion House, oblong building in the centre of the city of London, at the end of Cheapside. It is the official residence of the lord mayor of London, and was finished about 1750. It has an interesting neo-classic Corinthian portico.

Manslaughter is the killing of another (1) on a 'sudden affray,' i.e. without premeditated design; or (2) through culpable negligence. The first class obviously closely approximates to murder. If, for example, the slayer were carrying weapons, that fact of itself might well afford evidence of a deliberate intent to seek what might, *prima facie*, look like a sudden quarrel. The second class forms the bulk of charges of M. An endless variety of negligent acts causing death may amount to M.; e.g. a labourer engaged in house demolition, without in the least taking precautions, hurls debris down on to a highway and kills a passer-by; a 'peculiar' person, not believing in the efficacy of doctors, allows his child to die of disease when it might easily have been cured. But negligence, however gross, cannot be the basis of a charge of murder, though if the jury believe the facts show design and not negligence at all, the case would be otherwise. Frequently an indictment (q.v.) for murder contains an alternative count for M. where

the prosecution are doubtful about the circumstances.

In Scots law the term M. is not used. The cardinal div. of criminal homicide is into *murder* and *culpable homicide*. The taking of another's life without intention of killing, but in circumstances which display such a complete and wicked recklessness as 'to imply a disposition depraved enough to be wholly regardless of consequences,' is *murder*. Under 'culpable homicide' are included all sorts of homicide, which are neither *casual* nor *justifiable*.

Manson, Ethel Gordon, see FENWICK.
Manson, Sir Patrick (1841-1922), the 'father of tropical medicine,' son of an Aberdeenshire laird, educated at Edinburgh Univ., emigrated to Formosa in 1865 to study tropical diseases. In 1894 he formulated the mosquito-malaria theory, which, though disputed for a time, was ultimately confirmed by experiments (see also ROSS, SIR RONALD). In 1897 he became medical officer to the Colonial Office, and in 1899 he estab. the London School of Tropical Medicine with the aid of Joseph Chamberlain, who was then colonial secretary.

Mansūra, or **Mansaurah**, cap. of the prov. of Dakhla, Lower Egypt, about 34 m. S.W. of Damietta, on the r. b. of Damietta branch of the Nile. M. dates from the crusades, and marks the spot where the crusaders were finally overcome (Mansūra means 'the victorious'). M. manufs. sail cloth, cottons, and linens. Pop. 69,060.

Mansur-al-Kamili was chief chemist at the Cairo mint in the thirteenth century. He wrote an excellent book on assaying and the purification of gold, and his chemical knowledge was far above the general contemporary level.

Manterga, Andrea (1431-1506), It. painter, b. at Vicenza or Padua. He studied in the school of Squarcione, who entered him in the guild of painters before he was eleven, but afterwards came under the influence of Bellini, whose daughter he married. His reputation was assured by his frescoes in the chapel of S. Cristoforo, in the church of S. Agostino degli Eremitani, which are still regarded as examples of his best work. In 1459 he went to Verona, and painted an altarpiece for the church of S. Zeno, and in 1460 took up his abode at Mantua at the invitation of the Marquis Ludovico Gonzaga. In Rome in 1488 he painted a series of frescoes in the chapel of the Belvedere in the Vatican, among which was the noted 'Baptism of Christ,' but all were destroyed by Pius VI. He returned to Mantua in 1490 to continue the 'Triumph of Caesar,' his masterpiece, a series of nine pictures, each 9 ft. square, painted in tempera, now in Hampton Court. Another notable picture of his later years was his 'Madonna della Vittoria' (1495), now in the Louvre. M. was also an engraver, and amongst other works engraved 'A Bacchanal Festival,' 'Marine Gods,' 'The Entombment,' and 'The Resurrection.'

Mantell, Gideon Algernon (1790-1852), Eng. geologist, b. at Lewes, Sussex. He

made a collection of fossils, which he afterwards sold to the Brit. Museum, and pub. many geological works, among which may be mentioned *The Wonders of Geology* (1839).

Mantes, tn. in the dept. Seine-et-Oise, France, 22½ m. N.W. of Versailles, on the l. b. of the Seine. Burnt in 1087 in retaliation for a witticism of the Fr. king, Philip I., by William the Conqueror, who sustained a mortal wound there, it belonged for some time to Charles the Bad, but in 1364 was secured for Charles I. by Bertrand du Guesclin. It is notable for the ruins of the church of St. Maclou. Its manufs. include musical instruments and incubators. Pop. 9000.

Manteuffel, or **Manuteufel**, Edwin Hans Karl, Freiherr von (1809-85). Prussian general and diplomatist b. at Dresden. Appointed chief of the military cabinet in 1857, and adjutant-general of the king of Prussia in 1861. In 1864 he served in the Dan. war as a lieutenant-general, after which he was made civil and military governor of Schleswig. In 1866 he invaded Holstein on the plea that the Austrians, who then held it, had broken the convention of Gastein by appealing to the Germanic Confederation. On the latter deciding against Prussia M., co-operating with Falkenstein, crossed the Elbe and invaded Hanover. Having humbled the Hanoverian army M. was placed in sole command against the united forces of S. Germany. After this he went as envoy to St. Petersburg to advance Prussian interests in Germany. In the Franco-Ger. war (1870-71) he forced Bazaine to capitulate at Metz, defeated Farre at Amiens, and forced Clenchant to retreat into Switzerland.

Manticore, mythical creature, used as an heraldic device, having the head of a man, the body of a lion, a scorpion's sting, and porcupine's quills.

Mantineia, or **Mantineia** (*Μαντινεία*), one of the most ant. cities of Arcadia, situated on the borders of Argolis, s. of Orchomenus. It was one of the most powerful tns. of Arcadia, and continued to be so down to the time of the Achaean League. It was the scene of five great battles, the first of which was fought in 418 B.C., and resulted in a defeat of the combined Argives, Mantinians, and Athenians by the Lacedaemonians. The second took place about 367 B.C., when the Spartans were defeated by the Thebans and Epaminondas was slain, the third in 295 B.C., when Demetrius Poliorcetes defeated Archidamus and the Spartans; the fourth in 242 B.C., when Aratus and the Achaeans defeated and killed Agis at the head of the Spartans; and the fifth in 207 B.C., which again resulted in the defeat of the Lacedaemonians under the tyrant Machamidas, who fell in the battle. In consequence of its treachery to the Achaeans, Aratus sold its inhab. into slavery, and changed its name to Antigonia, in honour of Antigonus Doson, grandson of Demetrius Poliorcetes and a king of Macedonia; but Hadrian restored the old name.

Mantis, genus of the family of orthop-

terous insects Mantidae. The first pair of limbs are large, powerful, and peculiarly modified, and are used to seize and maim insects for food. The praying M. (*M. religiosa*) occurs in S. Europe, and is so called from the devotional attitude of the creature as it lies in wait for its prey. Many of the species have developed colour protection to a wonderful degree, so as to be hardly distinguishable from the leaves or flowers of the plant which they frequent. Their pugnacity and deadly armament have caused them to be kept and matched against one another like gamecocks.

Mantissa, see LOGARITHMS.

Mantling, or **Lambrequin**, in heraldry, is an appendage hanging down from the helm, and passing behind the escutcheon. Originally the M. was of the prin. colour of the shield, 'doubled' (i.e. lined) with the prin. metal or fur. To-day the sovereign's M. is of gold, lined with ermine; that of peers, of crimson velvet, lined with ermine.

Man-trap. Formerly Mts. were set on land and in houses without lot or hindrance. But the Offences against the Person Act, 1861, punishes with penal servitude the act of 'setting engines calculated to destroy human life or inflict grievous bodily harm,' and specifically mentions spring-guns and Mts. among such offending devices. Homicide resulting from such traps is manslaughter. But the act expressly saves the right of any one to set a M., spring-gun, or any other 'engine' in his dwelling-house between sunset and sunrise for the purpose of protecting the house.

Mantua, or **Mantova**, tn. of Lombardy, Italy. M. stands on an is. about 5 m. in circumference, in the middle of a lagoon formed by the Mincio. It is well built, with wide streets and squares, and contains many handsome structures. The prin. buildings are the cathedral, one of the finest in Italy; the church of S. Andrea; the churches of S. Maurizio and S. Sebastiano; the house of Giulio Romano, whose works as a painter and an architect form the greatest glory of the city; the church of S. Barbara, rich in paintings; the public library of 80,000 vols., and the museum, in which is a valuable sculpture gallery; the ducal palace, an old, vast, irregular structure, partly rebuilt by Giulio Romano, which contains some good paintings. The chief industries are tanning, printing, brewing, and iron working. This famous city suffered scattered damage in the Second World War in 1945. The monumental Gothic church of S. Francis was practically destroyed; the Filippini, S. Maurizio, and S. Orsola were all more or less completely destroyed; the roof of S. Leonardo was demolished, yet the cathedral, S. Andrea, and S. Sebastiano were undamaged. The Palazzo Canossa sustained some damage to its stucco decoration, but the ducal palace was only lightly damaged. Bombing in Aug. 1944 completely destroyed the Casa della Cervetta, a house which was built about 1495 by the pharmacists Gropoli. Near M. is the bp. of Virgil. Pop. 40,600.

Manu (Sanskrit, 'man'), or **Manu Vaisvata** ('the sun-born'), the seventh of a class of fourteen demiurgic beings, each of whom presides over a period of M. He is regarded as the progenitor of the present race, and was founder and first king of Ayodhya. To him are ascribed the so-called *Laws of Manu*, as well as a work on Vedic ritual.

Manuel, kings of Portugal, see **MANOEL**.
Manuel, Don Juan (1282-1317), Sp. writer and statesman, was connected with the royal house of Castile and Leon, and on the death of Ferdinand IV. (1312) acted as regent of the kingdom during the minority of Alfonso XI. As a writer he occupied an important place in the literature of the fourteenth century. His chief work is *El Conde Lucanor* (1335), a collection of fifty tales in the oriental style, but he also wrote *Cronica de España*, as well as several treatises, including *El Libro infundido*, a treatise on education, and *Las Mancias del amor*.

Manuel, Francisco (1734-1819), Portuguese poet, b. at Lisbon. He was the writer of odes and various other kinds of poetry, but was especially famous for his lyrics. He was compelled to flee from Portugal to escape the Inquisition, and d. at Versailles.

Manuel, Nicolas (1484-1530), Swiss portrait painter, poet, and reformer, b. at Bern. He studied painting at Colmar and at Venice under Titian, and was commissioned to paint a series of pictures for the monastery of his native city. This work, the 'Dance of Death,' was in the style of Holbein, but only copies of it exist, and another excellent work, 'Solomon's Idolatry,' has also perished. In his latter years M. took an active part in public affairs, and especially distinguished himself as a promoter of the Reformation. His writings consist of various controversial treatises, *Moralities and Mysteries*, and popular songs.

Manukau, harbour and co., of New Zealand, on the W. coast of Auckland prov. dist. is the W. coast harbour for the city of Auckland. It is separated from Waitemata Harbour on the E. coast by only a mile or two. The harbour of M. is a large inlet at the head of which is the port of Onehunga, which is 8 m. by rail or tram from Auckland.

Manumission, in Rom. law, the institution whereby a slave was freed. It took its rise from the law of nations (*jus gentium*) (q.v.); for 'by the law of nature [on which the law of nations was supposed to rest] all men were born free' (*Institutes of Justinian*, Tit. V.). M. was effected in various ways: in the presence of the Church (at one of the great festivals before bishops); according to the imperial 'constitutions'; or (most usually) by *vindicta* (fictitious suit in which a friend of the slave asserted before the praetor that the slave was free by touching him with the symbolic wand of proprietorship); or by testament or any other expression of a man's last will. A slave could also gain his freedom otherwise than by M., e.g. he might be abandoned by his *dominus* (master) on account of disease or infirmity,

and a slave so treated was pronounced a freed man by an edict of Constantine. There were other methods of M. besides those mentioned in Justinian's *Institutes*, which are noticed in his Code; but they are similar to the *modos* in the *Institutes* in that all are based upon an implied wish of the master to free the slave.

Manures, or Fertilisers, those substances, organic or inorganic, by which the fertility of the soil is maintained. The great bulk of the tissues of plants is built up from natural sources, water and carbon dioxide, that are apparently inexhaustible in most parts of the world. In addition, mineral substances and nitrogen are essential to the growth of plants, and their presence in the soil in minimum proportions is necessary for the production of satisfactory crops. In a state of nature, plant food is accumulated with the decay of animal and vegetable substances, and also to some extent by the action of leguminous plants in combination with certain micro-organisms of the soil. These draw upon the atmospheric nitrogen in the air and fix it in the soil. Farmyard manure is the chief fertiliser in general use. It is composed of the excreta of animals, and straw, peat-moss, or other litter. The fertilising value of animal excreta varies considerably, not only with the species of animals, but with their age and condition. Young growing stock use up a greater proportion of those parts of the food which have manurial properties than mature animals, with the exception of milking cows. It follows, therefore, that beyond a certain point the richer the food the greater the fertilising value of the manure. Linseed cake and de-oiled cotton cake, for example, are rich in nitrogenous food, and their use makes richer M. than starchy foods, such as wheat, barley, oats, maize, and rice. If poorly nitrogenous food has to be much used on account of considerations of price, compensation to the soil is called for. The condition of farmyard manure has much bearing upon its value; the fresher it is the more slowly its constituents become available as plant food. On this account old and well-rotted dung is applied to light, porous soils, so that the crop can make use of it with the minimum of loss. In the storage of farmyard manure much loss of the liquid, which contains the most soluble and therefore the most immediately valuable fertilising elements, is avoided if an underground storage tank can be provided for its collection. It is often altogether wasted on farms, most of the solid residue having little more value than that of its mechanical effect. The most satisfactory way of storing is to pile the manure on a bed of dry earth, covering it occasionally with a thin layer of soil, and finally with a thick coating.

The possibilities of artificial M. were first revealed by Liebig, who suggested treating bones with sulphuric acid, the result being what is known as 'dissolved bones.' 'Dissolved bone compounds' usually contain, in addition, shoddy, ground leather, dried blood, fish guano, etc., and though each of these and similar

materials have fertilising value the compound may be of doubtful utility. Nitrate of soda, obtained partly from the W. coast of S. America and partly made synthetically, is one of the most concentrated forms of nitrogenous M., and being very soluble is generally used as a top-dressing. Even more concentrated is sulphate of ammonia, which, though freely soluble, is slower in action. It is a refuse product of gas works, but the vast bulk of it is now manufactured synthetically. The presence of this salt in soot gives the latter its chief manurial value. Nitrate of lime and calcium cyanamide, as well as sulphate of ammonia, are now made from atmospheric nitrogen, and their use as nitrogenous M. is increasing (see NITROGEN, fixation of). The guanos are other rich nitrogenous M. Mineral superphosphate, obtained by treating finely ground mineral phosphates with sulphuric acid, is the cheapest source of soluble phosphate. The percentage of soluble phosphates varies from about 25 to about 75 per cent. Basic slag is a phosphatic manure which is a by-product in the manuf. of steel from phosphoric pig iron. If finely ground, so that about 80 per cent will pass through a sieve of 10,000 meshes to the square inch, and if about 85 per cent of the total phosphate is soluble in a 2 per cent solution of citric acid, it is a very effective manure. Basic slag also contains lime and, like other calcareous substances, is of great value in reducing plant foods to a condition in which they are available for assimilation. The chief potash M. are (i) kainite, a mineral consisting of potassium and magnesium sulphates and containing about 12½ per cent of potash, and (ii) potassium chloride or muriate of potash. The effect of potash M. varies greatly with different soils, and experimental trial is desirable to see whether they are needed in a particular case; but usually potatoes pay for a light application before the crop is planted. See also under AGRICULTURE. See Sir E. Russell, *A Student's Book on Soils and Manures*, 1917, 1919; J. M. Remington, *The Manure Note Book*, 1916; A. D. Hall, *Soils and Fertilisers*, 1916; Commonwealth Agricultural Bureaux, *Bibliography of Soil Science, Fertilizers and General Agronomy*, 1918.

Manus, see IIAND.

Manuscripts. This term, from Lat., meaning written by hand, indicates writings of any kind, on any material, although nowadays it is mainly used to indicate medieval writings on vellum or modern writings on paper, as distinguished from printed matter. Man naturally makes use of those writing materials which are the most readily procured and the most suitable. Palm-leaves, bamboo-sticks, clay, stone, metals, ivory, bone, wood, bark, linen, wax, papyrus, leather, and other materials were used, and still are used, for writing in various parts of the world. If something durable was wanted, metal, clay, or stone or other hard materials were employed; the writings thus produced are termed inscriptions (q.v.), and will not be considered in this article.

In various parts of India and other E. countries, the leaves of palm-trees, especially the talipot palm-leaves, which are long and narrow, have been in use for centuries, the local scribes employing an iron stylus to scratch the letters, and ink is rubbed over the surface of the leaf and fills up the scratches that form the letters. MSS. written on palm-leaf have been found in various E. countries which date back many hundreds of years. In Siam the material used was an indication of the social standing of the person for whom the written document was intended; the king's letters were engraved on sheets of gold when they were sent to princes, or on paper, either black or white, when written to lesser people. Sacred works were written on *Corypha* palm-leaves, their edges being gilded or painted with vermilion, and the leaves threaded on strings and folded like a fan; these MSS. are mainly preserved in the Siamese Buddhist monasteries. The MSS. of some Indonesian peoples consist of long strips of bamboo welded by beating one to the other, then folded together, accordion-like, between wooden covers, and bound together with a string of woven rushes. Instead of bamboo strips, sometimes long strips of thin bark of trees are used. The anc. books of the Bataks (Sumatra) are written in brilliant ink on paper made of bark. The bark of trees, as writing material, is still used by many other primitive peoples in America, Africa, and Asia, and its general use in anc. Rome caused its name, *liber*, to be attached to the book, which was made from it. The Lat. word *liber* (book) passed to Fr. (*livre*), It. (*libro*), Sp. (*libro*), etc.; also the Eng. words library, librarian, etc., have derived from it. The Eng. term book and the Ger. *Buch* have a similar etymology.

Linen cloth was employed by the anc. Egyptians to receive writing, but it was also used by the Romans, many Lat. authors referring to it (*libri linei*, *volumina lineata*, etc.), as well as by the Etruscans (the 'mummy of Zaezrob'; see under ETRUSCAN LANGUAGE AND WRITING). More extensive was the anc. Rom. (and Gk.) use of wax, or rather wooden tablets coated with wax, termed in Gk. *μῦαξ*, *δελίον*, *μυριον*, *αρμακτεον*, etc., and in Lat. *cera*, *tabella*, *tabula*, or *tabulae ceratae*. These tablets were used for school exercises, accounts, literary compositions, etc. A *codex* or *codex* contained two or more wooden tablets, coated with black wax, and held together by rings; it was termed (according to the number of its tablets) *diptycha* or *duplices*, *triptycha* or *triplices*, etc., or *polyptycha*, *multiplices*.

The main vehicle, however, by which the Gk. and Rom. literatures were preserved from the earliest times down to the early Middle Ages was the papyrus roll. The oldest books known are written on rolls of papyrus, and the earliest preserved written papyrus go back to the fifth Egyptian dynasty (late twenty-eighth-early twenty-seventh centuries B.C.). The largest library in antiquity, that of Alexandria, was said to comprise 700,000 vols.

in the first century B.C. The manuf. of papyrus appears to have ceased in Egypt about the middle of the tenth century A.D.

The manuf. of papyrus had its headquarters at Alexandria, and all matters relating to its size, quality, and price were carefully regulated in Rom. times. It was made out of the pith of the stems of the papyrus plant (*Cyperus papyrus* L.), which then grew plentifully in the Nile, and it was termed *πάπυρος*, *βυβλος*, *βιβλος*. The length of the early rolls was very considerable. We are told of some that were 150 ft. long, and would contain the whole *Iliad* or *Odyssey*; some were 30 or 40 ft. long. The best quality of papyrus was about 9½ in. wide, though there was a kind of 'large paper,' *macrocolium*, as much as a cubit wide. Papyrus lingered on in Europe for ordinary documents, letters, etc., until the eleventh century. However, on account of climate papyrus has been preserved wellnigh only in upper Egypt. Very few have been found in Palestine and N. Mesopotamia; charred papyri have been discovered in Herculaneum, Italy, and in lower Egypt. Still, some 30,000 Gk. papyri, and many others couched in Aramaic, Lat., Persian, Coptic, Arabic, and Heb., are preserved in the prin. collections of Europe, U.S.A., Egypt, Palestine, etc.

In the third century A.D., while the papyrus roll was still the dominant form of book for pagan literature, most of the Christian literature was written in codices: the papyrus material was then combined with the codex form, as, for instance, in the famous Chester Beatty papyri, which are a group of papyrus codices of various books of the Bible, mostly of the third century, but at least one belonging to the first half of the second century. However, the codex did not become fashionable until perhaps the fourth century A.D. It was the growth of the Christian community which brought it into prominence; and with the codex, the material best adapted to that form, namely parchment or vellum, also came into favour. It may be said that while the papyrus roll was the book of the pagan world, the vellum codex was the book of medieval Christianity.

The invention of vellum (*vitellinum*), a material prepared from the skins of calves, sheep, and other animals, is commonly attributed to King Eumenes II. of Pergamum (197-158 B.C.), in Asia Minor, who was ambitious of forming a library, but was unable to obtain papyrus, because his rival, Ptolemy of Egypt, jealous for his own library at Alexandria, forbade papyrus to be exported. This story is told by Pliny (*Natural History*, xiii. 11) on the authority of Varro, but its historical value need not be believed. However, there is no doubt that Pergamum (hence the name *parchment*, which is the origin of our word *parchment*) was the chief centre of the vellum trade. Actually vellum was not 'invented' in the second century B.C.; it was rather an extension of, or improvement upon, the old practice. Rolls of skin were used by the Egyptians in quite early times: the first mention of

documents on skin goes back to the fourth dynasty (twenty-ninth-twenty-eighth century B.C.), although the earliest extant examples of such documents are a roll of leather of the twelfth dynasty (c. 2000-1788 B.C.), and a mathematical text of the seventeenth century B.C., now in the British Museum. It is uncertain whether the Babylonians and Assyrians employed skin as writing material (no such documents have been recovered in Mesopotamia, because her soil was unsuitable to the conservation of such perishable stuff as leather or papyrus), but Otesias reported that the Persian royal records were kept on skins of sheep or goats, and that the Avesta was said to have been written on skins of oxen. Herodotus, too, tells us that the Ionian Gks. wrote upon skins, and so did also many barbarians in his own time. The Jews probably employed skins throughout their hist. for the reception of their sacred books (a few fragments, apparently belonging to the fourth or third century B.C., have been recently discovered), as indeed they do at the present day. The Christian Church, influenced no doubt by the practice of the Jews, chose parchment upon which to write their sacred books.

However, the papyrus roll continued to be predominant, and parchment was mainly used for note-books and cheap copies until the end of the third century A.D. Then its superior advantages seem to have been suddenly realised. It was more durable than the papyrus; it provided a beautiful surface for writing; arranged in sheets or pages, it could contain in a single vol. a far greater quantity of matter than the papyrus roll. Thus it became possible to have the whole of Homer or Virgil or of the Bible in a single vol. It was possible to use it more than once, for it could be written upon, then washed out, and another text written over it, known as *palimpsest*. Two other circumstances favoured the vellum codex: (1) From Pergamum the article made its way in great quantity to Rome, and once in Rome its diffusion over the whole civilised world was assured. (2) The Christians, having chosen it as their main writing material, soon extended its use, first to the reception of their theological literature, and then to that of literature in general. It must also be borne in mind that the fourth century A.D. witnessed the victory of the vellum codex over the papyrus roll, just at the time when the Emperor Constantine accepted Christianity as the official religion of the Rom. Empire (c. A.D. 313-25), and one of his first acts was to instruct Eusebius to have fifty copies of the Gk. Bible written on vellum for his cap., Constantinople. The earliest extant great codices belong to this century: *Codex Sinaiticus* (British Museum), *Codex Vaticanus* (Vatican Library); others belong to the fifth or sixth centuries: *Codex Alexandrinus* (British Museum), *Codex Ambrosianus* (Milan), *Codex Ephraemi* (Paris), *Codex Sarravianus* (Leyden and Paris), *Codex Washington* (Washington), *Codex Argenteus* (the famous Gothic MS. preserved in Upsala),

and so forth. From the fourth century A.D. the vellum codex definitely superseded the papyrus roll, and remained the chief writing material for MSS. until the general estab. of the use of paper in the fourteenth century.

The use of paper as writing material was unknown in Europe before the eleventh century A.D., although the Chinese had known it already for about 1000 years. It was invented in China about A.D. 105. In the eighth century the Arabs learned paper-making from the Chinese, and in the ninth century they brought it to Spain and Sicily. By Europeans paper was first made in the twelfth century in Spain and Italy. The art of paper-making spread from Spain to France in 1248, from Italy to Germany and Switzerland in the fourteenth century, and perhaps also to England, where the first important paper mill was set up in Hertford by John Tate in the second half of the fifteenth century. However, in the second half of the fourteenth century paper was in fairly general use throughout Europe, and began to rival parchment as writing material for books. In the course of the fifteenth century it gradually superseded it. At that time, however, printing superseded handwriting in the manu. of books.

The Mexican pre-Columbian MSS., known as Aztec codexes, are painted in colours, on coarse cloth made from the fibre of the *Arape americana*, or on a long sheet of *amall* paper, of an average width of 6 or 7 in., but of different length. The sheet was folded up screen fashion to form the leaves, and was fastened to what may be called the binding of the codex, which was of fine, thin wood, covered with brilliant varnish: it had no 'back.'

For the writing on the MSS. see under ALPHABET; PALAEOGRAPHY; WRITING; and the single letters A, B, C, D, and so on. See also ILLUMINATION OF MANUSCRIPTS; PALIMPSEST.

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Manutium, see MANCHESTER.

Manutius Aldus, or Manuzio Aldo (c. 1460-1515), It. printer and author, b. at

Sermoneta, in the papal states. He spent some time in the study of the classics, subsequently becoming tutor to the princes of Carpi, one of whom, Alberta, supplied him with the money for starting his printing press. At Venice in 1490 he produced eds. of Musaeus's *Hero and Leander*, and the Gk. Psalter. These were followed by the works of Aristotle, Aristophanes, Thucydides, Sophocles, Herodotus, Xenophon, Euripides, Demosthenes, Plato, and Pindar, as well as some eds. of Lat. authors. He is famous as having been the first to print Gk. books and to use italics on a large scale, and was the founder of the Aldine Press. See M. Ferrigni, *Aldo Manuzio*, 1925, and G. Fock, *Bibliotheca Aldina*, 1930.

Manx-cat, variety of the domestic cat (*Felis domestica*), distinguished by having no tail, or only a rudimentary one. A native of the Isle of Man, it may be of Jap. origin. It is now almost extinct.

Manx Language, see under ARYAN and INDO-EUROPEAN LANGUAGES.

Manyoh, or Manyeh, riv. bed of Russia, between the Don and the Caspian Sea. It is dry for a great part of the year.

Manzanares: 1. Tn. of Spain in the prov. of Ciudad Real, 70 m. from Toledo. It has manu. of soap, cloth, and pottery. Pop. 16,000. 2. Riv. of Spain in New Castile, with a length of about 50 m. It flows from the Pico de Peñalara past Madrid to the Jarama.

Manzanillo: 1. Tn. in Cuba on the gulf of Manzanillo in the S.E. of the is., 437 m. by rail from Havana and 112 m. from Santiago. The tn. exports sugar and molasses. Pop. 36,300. 2. Tn. of Mexico in the Colima ter. It is one of the oldest tns. along the Pacific shore. The port serves Guadalajara and Jalisco dists. The chief exports are coffee and hides. A 200 m. road via Colima to Jiquilpan was nearing completion in 1949. Pop. 7000.

Manzanita, or *Arctostaphylos manzanita*, beautiful Californian tree of the order Ericaceae, allied to the Brit. heatherberries. It varies from 20 to 60 ft. in height, and its wood resembles mahogany.

Manzoni, Alessandro (1785-1853), It. novelist, b. at Milan. In 1806, at the age of twenty-one, appeared his essay in poetry entitled *Iersi Scotti*, inspired by the death of Carlo Imbonati, an intimate family friend. In 1810 his sacred lyrics met with general admiration. Sev. tragedies, written with much spirit and originality, attracted notice not only in Italy, but also in France and Germany, and foremost among the warm admirers and favourable critics of M. stood Goethe. The work, however, by which M. attained to European fame is his historical novel, *I Promessi sposi*, a Milanese story of the seventeenth century (3 vols., Milan, 1827). M.'s ode to Napoleon (1823) is noble in thought and diction. The poet's later years were spent in strict and devout seclusion, the free tendency of his early opinions having been succeeded by a stringent conformity to the doctrines of Rome. An ed. of M.'s works in 5 vols. was pub. by Tommaseo in Florence (1828-29).

Maoris, or **Mau** (New Zealand word signifying *native* or *indigenous*) the name given to themselves by the inhab. of New Zealand. The M. in common with the natives generally of Polynesia, belong to the Malay race or family of mankind though calling themselves indigenous, the M. have a tradition that their ancestors migrated to the present seat of the nation from the Is. of Hawaiki about 100 years ago. This Is. has been identified with Hawaii and Savaii in the Pacific Ocean. On their arrival in New Zealand the M. found inhab. on the E. coast of the N. Is. of similar racial origins to themselves known to the M. as *Morioris*, 'inferior people' this race was driven to the S. Is. and to the Chatham Is. through absorption by the dominant M. the *Morioris* finally became extinct in 1835. Of them but nothing definite is known and even their origin remains a mystery. Coming from tropical lands the M. mainly confined themselves to the warmer N. Is. and when discovered by Europeans were in a high state of neolithic civilisation, with marked superiority in the arts of wood carving and military engineering. Their prin. social unit was the family group and from combinations of the numerous groups were formed sub tribes and tribes. With highly developed social and ritualistic customs they were communistic within the sub tribes in their system of land tenure as well as in their methods of cultivation. Inter tribal warfare was common and indeed the Maori has never been united as a nation tribes fighting against tribes to the death. As individuals they show exceptional courage and intelligence.

The skin of the M. is in general of an olive brown colour but there are some in whom the shade is much lighter, while in others it is darker. In stature they almost equal Englishmen and have a powerful muscular development. They have well shaped intellectual heads, and their features, when not tattooed might almost be taken for Europeans. Few of them have beards or whiskers. The women are of lesser stature than the men in proportion and are in other respects inferior to them. Cannibalism was universally prevalent among the M. before their conversion to Christianity. The last instance of it occurred in the year 1843. Infanticide which also prevailed largely among them in their days of heathenism has now long been abolished and the same is the case with slavery and polygamy. The most curious of Maori customs now almost extinct owing to the influence of Christianity is the practice of tattooing or Maori moko. To day no Maori man lives who bears more than a few scrolls of moko and that only on the face (tattoo on the body was called 'whakapahe'). It is rarely seen except upon the old men but the tattooing of the lips and chin of married women is still a common practice. There was considerable art displayed in the practice, the native artist showing originality and taste in his remarkable arabesques in moko pattern. In the later development of moko, these

winding arabesques were not designed merely to ornament a surface of flesh but in parts followed the conformation of the individual countenance. The whole countenance was much disfigured by the practice although it was considered by the M. as highly ornamental and further more it served the purpose of marking the clan or tribe to which the tattooed person belonged and indeed the M. regarded the unmarked face as common and plebeian and originally only the free men were tattooed, but never a slave. As compared with tattooing in the still milder



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climates of the South Sea I. which leaves the skin smooth the moko of the M. is really a chiselling of the flesh actually done with chisels made of shark's teeth, bird's bone or shells and stone the whole process of chiselling and colouring being very painful. During the process of moko the patient was taped and therefore might not be touched nor could even touch his own face, and if he touched anything it had to be destroyed, as it could never be used again for a common purpose. It was tapu that made the difference between chiefs and others for there was little or no outward distinction and in their mutual intercourse there was unreserved freedom among the M.

Maori society had three grades, each one having sev. degrees of position or influence. The first class was that of the 'Rangatira,'

or chieftain; the second, the 'Waro,' or commoner; the third, the 'Hononga,' or slave. The 'Ariki,' or priest, was generally found in the person of the chief. The M. believed that the 'atua,' or departed spirit of a chief, cared most for the living members of his own family; hence the families of the chiefs were more tapu than others. A common man, if brave or wise, could rise to the dignity of a chief. The M. are associated in our minds with warfare, yet it is said that few members of the race have a knowledge of the correct use of their weapons of war. The Maori did not use a heavy weapon, his best defence being agility and quickness of perception, to which indeed he was trained from early childhood. In the art of parrying a blow the Maori fighting man was an adept, and the shield was not much in use. The chief weapons were the taiaha, mere, and kōkoi. The taiaha was a weapon carried by persons of distinction, and even to-day a chief will hold one when making a public speech, although he may not know the use of it as a weapon. It is a weapon of about 5 or 6 ft. in length, with an elongated carved head, and it terminates in a spear-head. The kōkoi, a 6- to 8-ft.-long spear, pointed at both ends, was the weapon most commonly used; the longer kind was called huata, and the shorter the tao, these latter being used in hand-to-hand fighting or in duels.

Of the great number of Maori legends, those relating to the hero Maui are most widely known. This hero was skilled in magic; it was Maui who snared the sun, and in his preparations for the feat he invented a rope made from flax. It was Maui who fished up the is. of New Zealand with a hook made of the enchanted jawbone of an ancestress, and this jawbone in Maori belief now forms the curve in the S. extremity of Hawke's Bay. The numerous adventures of Maui have naturally given rise to a set of proverbs, and reference to these in speeches or ordinary conversation lends a subtlety to the language of the learned which eludes those not acquainted with Maori mythology. Another hero of Maori myth is Ngatoro, whose name is associated with Mt. Tongariro, the volcano in the middle of N. I. Ngatoro climbed this mt., first enjoining on his brothers not to touch food during his absence; they disobeyed, with the result that Ngatoro, in his wrath, felt faint, and calling on the gods to send fire to him, the mt. became a volcano, so that the hero was revived by the heat and descended to the plains below. The route by which the fire came became, in the Maori belief, the famous thermal dist. around Rotorua and Taupo. Such legends are very similar to Samoan myths, which equally show much poetry in the explanation of natural phenomena. The primal being of Maori myth was Io, the supreme god, who in some manner caused the earth and sky to exist, and these are personified in Rangī, the Sky Parent, and Papa, the Earth Mother. Fairies figure prominently in Maori legends. The M. are true believers

in fairies even to-day. In former days many were the stories told of monsters known as 'tanīwhas' who lived in sea caves or in swamps, stories which probably had their foundation in the schools of seals and porpoises seen off the coast.

Dancing has always been a favourite recreation of the M., with whom, as in their other arts, there is a well-defined constructive scheme so that the progression of movements adequately expresses the passions or the development of a dramatic idea. Of the latter type the 'poi' dance or famous canoe dance, which is perhaps the favourite among the M., exhibits considerable interpretative skill. Maori carving is a most characteristic, if dying, art, which distinguishes the race from other Polynesians. Dist., tribes, and even families specialised in some particular form of art expression, and were jealous to preserve their secrets. Carved figures, interiors of houses, such as carved pillars, and, above all, the embellishments of the war canoes, afford some of the most striking examples of Maori carving.

The language of the M., like the Polynesian languages generally, belongs to the Malay family. Seven tolerably distinct dialects are spoken among them. The language being rich and sonorous is well adapted for poetical expression. More than five-sixths of the M. are now converted to Christianity. Since the native wars, which lasted from 1843 to 1869, the M. have enjoyed complete peace, but they steadily declined in numbers from about 100,000 to 40,000 in 1901. During the last forty years, however, they have increased, and their number may now be put at about 98,000. Much may depend on the creation of a native land settlement scheme, for there is very little land held by 'customary' tenure—i.e. land which has never been the subject of a Crown grant, and is held by natives under the customs and usages of the Maori people, as recognised and guaranteed by the treaty of Waitangi. Nor, again, is there any large area of 'native freehold' land. There is, however, a very prevalent opinion that the Maori can have no future as a distinct race, for even though the downward trend in pop. has long been arrested, there is a continuous infusion of Maori blood in the New Zealand pop. Two Maori members may be appointed to the Legislative Council by the governor-general (since 1927). There are four Maori members in the House of Representatives, elected for three years, and every adult Maori living in any of the four Maori electoral dists. is entitled to vote (Act of Dec. 11, 1937). Maori children may attend public schools, but there are also native vil. schools provided for their primary education. There are also a few mission schools remaining from the pre-Maori war system estab. with the help of gov. subsidies. For post-primary education the Maori child may go free to any available secondary school, but in remote areas he will go to a denominational Maori secondary school. There are now some twelve secondary schools for M. besides primary schools.

See J. E. Gurst, *The Maori King, or the*

Story of our Quarrel with the Natives of New Zealand, 1864; J. Buller, *Forty Years in New Zealand, 1878*; Sir G. Grey, *Polynesian Mythology and Maori Legends, 1885*; A. Hamilton, *The Art Workmanship of the Maori Race in New Zealand, 1896*; S. P. Smith, *Wars of the Northern against the Southern Tribes of New Zealand in the Nineteenth Century, 1904, 1910*; E. Tregear, *The Maori Race, 1905*; J. Cowan, *The Maoris of New Zealand* (hist., religion, and mythology, customs and institutions), 1910; H. L. Williams, *A Dictionary of the Maori Language, 1917*; A. W. Shrimpton, *Maori and Pakeha: a History of New Zealand, 1921*; E. Best, *The Maori* (Board of Maori Ethnological Research: vol. 1.), 1924; Frances del Mar, *A Year Among the Maoris: a Study of their Arts and Customs, 1924*; J. Cowan, *The Maori, Yesterday and To-day, 1930*; H. Grieve, *Sketches from Maoriland, 1939*; J. L. C. Sutherland (ed.), *The Maori People To-day* (chapters by various contributors on tribal organisation, arts and crafts, religious influences, customs, social welfare, and education), 1941.

Mao Tse-tung (b. 1893), Chinese Communist political leader, b. in Hunan. He took part in Sun Yat-sen's revolution of 1911 and joined the Communist party on its foundation in 1921. In 1931 he became chairman of the council of people's commissars in the areas of S. China given over to Soviet principles. In 1935 he led the 'long march' to Shen-si and brought about the alliance between the Communists and the Kuomintang in 1936, which was only ended at the close of the Second World War in 1945 when civil war again broke out. (see under CHINA, History). Since then he has been the accepted political leader of the Communists in their successful campaigns against the nationalist forces of the Kuomintang. His so-called 'New Democracy', the bible of the Chinese Communists, is best described as 'communism through capitalism,' a shrewd and, in the long run, extremely dangerous and misleading economic policy, which, in his own words, means that 'private capitalism must be developed and the initiative of millions of Chinese encouraged because an era of capitalism and industrialism is the essential first stage towards a Communist China.' M. and his adherents are, in fact, resolved to follow the speediest road to the Chinese Communist state. In an article written to commemorate the twenty-eighth anniversary (July 1949) of the founding of the Chinese Communist party, M. reaffirmed Communist China's alignment with the Soviet bloc of powers and restated his now familiar thesis that there is for China no 'middle way.' China (he said), now formed part of the 'anti-imperialist front' led by Russia, and could look for friendly help only from that direction. Yet he admitted that if China is to become an industrialised nation and economically independent, this could only be achieved by trading with the imperialist powers. According to M., the Chinese Communist party has two guiding principles. First, it intended to unify

four categories: workers, farmers, small capitalists or bourgeois, and liberal capitalists, or owners of industries vital to the nation's welfare. It would ruthlessly suppress the activities of all reactionaries, including imperialist forces, landowners, and bureaucratic capitalists. All democratic rights, including the freedom of speech, of assembly, or of pub., and of association, would be conferred on the first four categories but denied to the others. Secondly, the Chinese Communist party aimed at strengthening the united international front with the Soviet Union, with all people's democracies and proletarian classes, and with the masses of all nations throughout the world.

Map, or Mapes, Walter (fl. 1200), medieval author and wit, probably a native of Herefordshire. He studied under Girard la Pucelle at Paris, and on his return to England was made clerk of the royal household, being frequently employed as a justice itinerant. He was with Henry II. at Limoges in 1173, and in Anjou in 1183, and in 1179 was sent to the Lateran Council at Rome. In 1176 he received the prebend of Mapesbury at St. Paul's, becoming before 1186 chancellor of Lincoln, and in 1197 he was made archdeacon of Oxford. He wrote *De nunciis curialibus*, a collection of legends and anecdotes from his native country. This book gives some information of the Templars and Hospitallers, and also contains a sketch of the Eng. court and kings from the reign of William I. to his own time. Besides this, it gives an account of M.'s life. He probably was also author of some of the satirical Golluthic verse, as well as of a large part of *Lancelot* and specimens of his wit are preserved by Giraldus Cambrensis.

Maple, or Acer, genus of deciduous trees of the order Sapindaceae, with opposite, stalked, palmately veined leaves of great decorative value, and racemes of green flowers followed by two-winged samaras. The common or small-leaved M. (*A. campestre*) has the racemes erect, and is the only Brit. species, but the greater M., or sycamore (*A. pseudo-platanus*) with pendulous racemes is now perfectly naturalised. Of the numerous N. Amer. species, the sugar M. (*A. saccharinum*) is one of the most valuable. M. wood has many uses. The M. leaf is the national emblem of Canada.

Map Reading. Whereas formerly a map indicated more or less inaccurately a number of places and their supposed relative positions, a modern map, carefully selected and studied, can be a mine of compressed authentic information. The maps generally referred to in this article will be those of the official Brit. Ordnance Survey, on which all privately pub. maps (e.g. Bartholomew's) are based.

In 'reading' a map the first thing to do is to study carefully the conventional signs employed. These vary somewhat according to the scale and the date of pub. Ordnance Survey maps being now subjected to a process of continuous revision and improvement, those of latest date will, in general, be the most accurate.

and informative.* These maps show both natural physical features and man-made constructions; the special character of the ground surfaces; areas, distances, levels, and boundaries; also archaeological, historical, and prehistoric features. Formerly printed on the margin of the map sheet, these conventional signs can now be obtained on a separate card containing information on both sides, with scales along the edges in ft., yds., m., and km., and a protractor for measuring or setting out angles. The most generally useful map for all purposes is the inch-to-a-mile (coloured).

Roads are readily distinguishable according to their categories, from good main roads down to narrow bad unfenced roads, footpaths, and bridle paths. Railways, whether single or double tracks, with embankments, cuttings, tunnels, viaducts, stations, level crossings, bridges (over or under), mineral lines, and tramways, are also shown.

Waterways comprise rivers, lakes, tarns, reservoirs, all coloured blue, streams and tribs, in meandering blue lines, canals with straight banks, ditches generally in fine blue straight lines. Boundaries of various kinds include co., bor., par., etc., shown by various combinations of black dots and dashes. Electric transmission

lines are represented by fine black lines with pylons spaced conventionally.

Many conventional signs (more numerous on the large-scale plans) indicate the character of the ground surface, e.g. slopes, broken slopes, cliffs, mud-banks, flat rock, boulders, shingle, sand, sand-pits, gravel-pits, pasture, orchards, etc.; also abbreviations or signs for artificial objects like letter-box, police call-box, well, trough, post office, youth hostel, windmill, lighthouse, church, etc. Sites of antiquities have a conventional sign, with distinctive lettering to indicate either prehistoric, Roman, or medieval remains.

Contour lines, usually drawn in brown or red ink, are an invaluable modern invention and display relief without obscuring physical features. Widely spaced contour lines indicate gentle slopes, generally devoted to agriculture, and closely packed lines steep or precipitous slopes. Aerial photographs may reveal features not otherwise discernible. See J. W. Cameron, *Map Reading*, 1920; T. Pickles, *Map Reading*, 1937; G. T. McCaw, *The Basis of Map-making*, 1938; F. F. Crossley, *Map Reading*, 1943; B. Lockey, *The Interpretation of Ordnance Survey Maps—Geographical Pictures* (4th ed.), 1946.